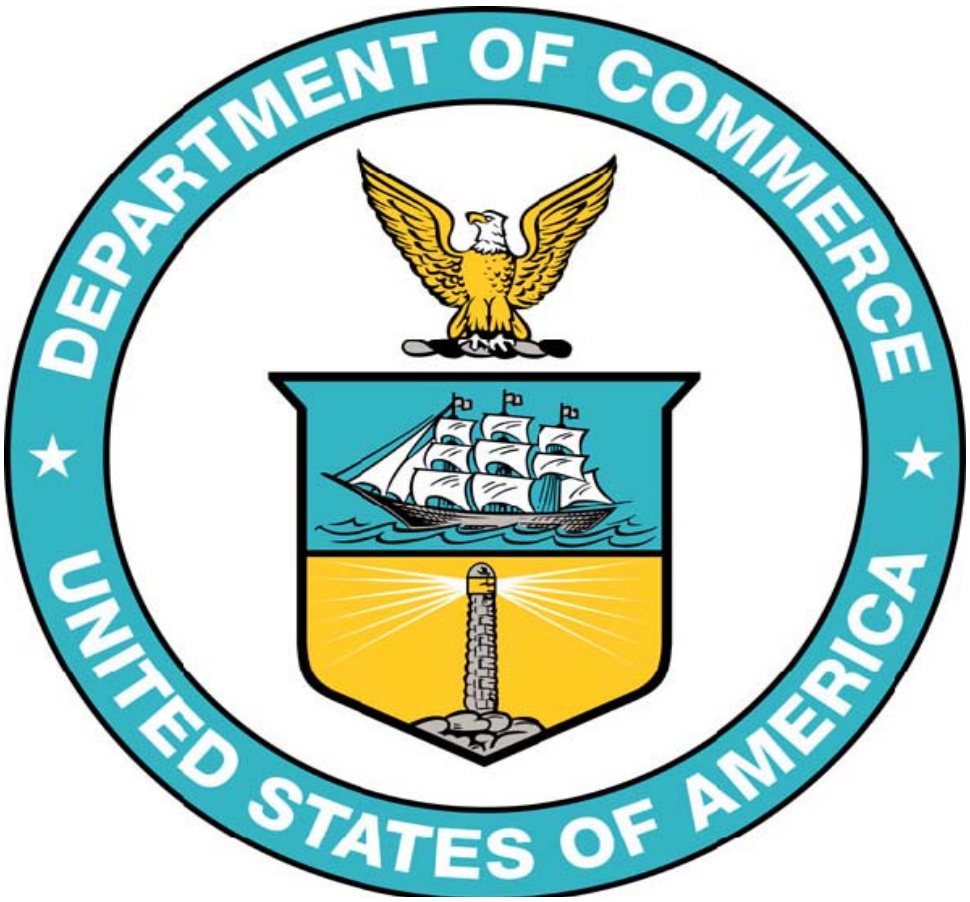
Department of Commerce
Strategic Information Technology Plan
2005-2009



September 2005

Introduction

The mission of the Department of Commerce (DOC) is to create the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and stewardship.

To achieve this mission, the Department has established three strategic goals and a management integration goal. Each strategic goal involves activities that touch American lives every day. These strategic goals and the general objectives underlying each of them, are stated as:

Goal 1: Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.

The objectives of this strategic goal are to enhance economic growth by developing partnerships with private sector and nongovernmental organizations, to advance responsible economic growth and trade while protecting American security, and to enhance the supply of key economic and demographic data to support effective decision making by various DOC stakeholders.

Goal 2: Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.

Underlying this strategic goal are the general objectives of developing tools and capabilities that improve the productivity, quality, dissemination, and efficiency of research; the protection of intellectual property and improvement of the patent and trademark system; and the advancement of the development of global e-commerce and enhanced telecommunications and information services.

Goal 3: Observe, protect, and manage the Earth's resources to promote environment stewardship.

The objectives of this strategic goal are to advance understanding and predict changes in the Earth's environment, and to meet America's economic, social, and environmental needs through enhanced conservation and management of coastal and marine resources.

Management Integration Goal: Achieve organizational and management excellence.

This goal, which applies with equal importance to all of our operating units, reflects our commitment to continual improvement in the effectiveness of our organizational management in both public and private settings.

The Department of Commerce is a major Information Technology (IT) organization and successful outcome of its programs is dependent upon effective investment in, and management of, its IT resources. In FY 2004, Commerce spent $1.34 billion on IT services that include hardware, software, in-house personnel, and support services. In FY 2005 and 2006, the Department plans to spend $1.52B and $1.57B respectively on IT services. As a percentage of total agency expenditures, Commerce ranks among the top agencies in the federal government in IT spending. Our ability to serve our customers and our effective stewardship of public resources depend upon the efficient application of our IT resources to furthering these goals.

This Strategic Information Technology Plan (SITP) is one of a suite of documents that guides the Department of Commerce's Information Technology (IT) planning process. It has been prepared consistent with federal guidance including:

- Government Performance and Results Act of 1993 (Public Law 103-62)
- Clinger-Cohen Act of 1996 (Divisions D and E of Public Law 104-106)
- The e-Government Act of 2002 (Public Law 107-347)
- Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998
- Information Quality Act of 2001 (Public Law 106-554)
- Office of Management and Budget Circular A-130; Management of Federal Information Resources
- Office of Management and Budget Circular A-11; Planning, Budgeting, Acquisition, and Management of Capital Assets
- Homeland Security Presidential Directive-7: Critical Infrastructure Identification, Prioritization, and Protection
- Privacy Act of 1974 (5 USC 552a)
- Electronic Communications Act of 1986 (18 USC 2510)

This SITP serves as the linkage between the Department of Commerce Strategic Plan and the SITPs developed by the DOC operating units. It draws upon strategic guidance found in the Department's Strategic Plan and sets the direction for development of the operating units' individual SITPs.

In this document you will find our strategies for implementation of legislative mandates, the vision of the Department's Chief Information Officer (CIO) for implementation of the Department's overall strategic plan, linkages between the SITPs of the Department's operating units, and the framework of strategic requirements to be implemented through the Department's use and management of Information Technology. Specific guidance, which shapes our formation of this plan, is found in the Department's Annual Performance Plan and Accountability Report and our Information Technology Capital Planning and Investment Control Process.

Our Strategic IT Plan is intended to serve several functions:

- It identifies our IT vision and will serve as a measuring stick to determine our success in progressing toward that vision.
- It defines the strategies we will follow to ensure that the Department acquires IT resources of the highest quality, manages those resources in the most effective manner possible, and makes efficient use of those resources in achieving our highest-level goals.
- It gives form to an environment to which Commerce's diverse operating units should strive. Accomplishment of our Departmental IT goals requires a coordinated effort by all of our organizational components.

Please direct comments or questions to the Office of Information Technology Policy and Planning (OITPP) at (202)-482-0335.

IT Management in the Department of Commerce

OBJECTIVES OF THE OFFICE OF THE CHIEF INFORMATION OFFICER

The Commerce Department's Chief Information Officer (CIO) provides guidance for the Department's effective use and management of the Department's IT resources. The CIO places a high priority on the full and appropriate use of information technology throughout the Department, and encourages the CIO of each of the subordinate DOC operating units to communicate the same priority throughout their organization.

The DOC CIO continues to place a high priority on increasing the quality, timeliness, and amount of information available to our customers in electronic format. In order to maximize our potential as a transaction-oriented e-government entity, we focus our efforts on placing ourselves closer to our customers and achieving continual improvement in our efficiency at delivering products and services at our stakeholders' location of choice.

The Office of the Chief Information Officer (OCIO) policy actively supports the increased use of leading-edge technology throughout the Department. From the annual strategic IT planning process through the development, implementation, and deployment of operational IT systems, OCIO encourages all of the DOC operating units to seek out innovative approaches to achieving the Departmental mission more efficiently, and to deliver DOC products and services of the highest quality while maintaining low cost to the taxpayer.

OCIO oversees an annual investment of approximately $1.5 billion in IT hardware, software, and services. This investment is executed and managed through a Capital Planning and Investment Control (CPIC) process, as envisioned in the Clinger-Cohen Act of 1996, Office of Management and Budget (OMB) Circular A-130 (Management of Federal Information Resources), and other related guidance and regulations. DOC policies and implementation guidance developed by OCIO directly support OMB guidance and provide a structured process for the review and evaluation of proposed IT initiatives as well as the control of ongoing IT projects. It is the objective of the DOC CIO to further strengthen the Department's processes involved in the acquisition and management of IT resources, to maintain a robust IT Capital Planning and Investment Review process, and to ensure that the CPIC process is integrated with the Department's Enterprise Architecture.

Also of high importance to the CIO is the Department's IT Security and Critical Infrastructure Protection activities. As more and more Departmental information is made available in electronic format, the potential for compromise of that information grows exponentially. To ensure the integrity and availability of the Department's information resources, we have increased our efforts toward maintaining a secure IT environment and have maintained a high vigilance in our implementation of policies and procedures to ensure continuity of Departmental operations.

THE COMMERCE INFORMATION TECHNOLOGY REVIEW BOARD

Central to the management of the CPIC process is the guidance provided by the Department of Commerce Information Technology Review Board (CITRB). The CITRB, in concert with the

DOC CIO Council and through the Department's CPIC process, provides oversight, review, and advice to the Secretary and Deputy Secretary on IT investments that meet certain criteria. This advice includes recommendations for approval or disapproval of funding for new IT systems or major modifications to existing systems. The CITRB also makes recommendations for continuing, modifying, or terminating existing systems based on performance, cost, or schedule criteria.

Proposals for new IT initiatives, along with supporting documentation, are presented to OCIO and the CITRB as part of the budget submittal process. Project sponsors also brief the CITRB on the merits of their projects, and the CITRB then rates and ranks proposed IT initiatives according to documented evaluation criteria. Project sponsors are given an opportunity to correct deficiencies and improve their scores, and projects that receive satisfactory ratings are forwarded as approved by the CIO for the budget review process. The CIO provides finalized project ratings and recommendations to the Office of Budget and Departmental executives, for final budget approval.

The CITRB's control reviews address projects that are in progress, at key milestones, or demonstrate a need for management intervention. The CITRB review process includes initial reviews and opinions by Departmental personnel with expertise in the CPIC process, cost-benefit analysis, project management practices, and Enterprise Architecture. The results of these expert reviews provide the CITRB with insight as to how well Commerce's ongoing systems are meeting cost, schedule, and performance goals, and assist the Board in directing corrective actions as necessary. On a quarterly basis, project managers of major investment initiatives with high visibility, or significant risk factors, submit Earned Value Management reports that provide the DOC OCIO with an executive-level view of the cost and schedule performance of the Department's IT investment portfolio. At least annually, OCIO staff reviews IT systems that are not the subject of formal DOC CITRB reviews or quarterly earned value reporting.

As an IT initiative is completed or reaches the operational life-cycle phase, a post-implementation review is conducted to explore lessons learned and to provide suggestions for better managing future projects. Managers of implemented projects are also required to submit an annual operational analysis that examines the initiative's performance in terms of customer results, business results, cost and schedule performance, and innovation. Operational performance of implemented projects is compared to projections, thus providing valuable information relative to the project's impact on operating unit and Departmental mission performance, and identifying any investment initiative modifications that may be needed. These operational analyses and review techniques allow the Departmental CIO to revise the investment management process based on lessons learned.

The CITRB is now institutionalized as a body that promotes improved IT decision-making throughout the Department. The CITRB is considered by Departmental senior management as the central decision-making point in the evaluation of IT initiatives for budget-year projects and ongoing investments.

THE INFORMATION TECHNOLOGY PLANNING PROCESS

The Commerce IT planning process requires that each operating unit develop strategic and operational IT plans. The purpose of the strategic IT plan is to focus attention on each operating unit's high-level, strategic application of IT to Departmental missions. The operating units'

strategic IT plans highlight budget-year initiatives and address key planning issues such as the support of operating unit and Departmental missions, the incorporation of business process reengineering, and investment selection criteria such as return on investment, compliance with architectural goals, comprehensive risk management planning, and IT security.

The objectives of the Department's IT planning process are:

- To ensure decisions relating to IT investment and management are fully informed and that they are made with the best information available;
- To leverage the power of IT to improve delivery of Commerce products and services;
- To anticipate future trends in technology and to ensure that those trends are exploited in the fulfillment of Commerce's mission;
- To ensure that key stakeholders are properly identified and intimately involved in the planning, acquisition, and management of Commerce's information assets;
- To intelligently evaluate alternatives for fulfilling the Department's IT needs and to ensure that decisions made reflect an optimal approach to satisfying cost, schedule, and performance requirements;
- To ensure that decisions made regarding IT acquisition and management properly incorporate full consideration of the requirements for the security of information assets and that principles of individual privacy are fully integrated into IT solutions;
- To promote a fully integrated approach to program planning, IT security management, and the processes of investment evaluation, selection, and control;
- To ensure that the products and services delivered to our customers reflect full value for the resources expended.

The IT planning process is integral to the Department's IT capital planning and budget development processes, enhancing IT decision making at both the Departmental level and within the various operating units. OCIO staff coordinates IT planning processes with budget calls to the operating units in order to support IT plan development and the budget review process. IT projects must clearly demonstrate alignment with high-level Departmental goals to successfully complete the budget review process.

The operating units' Operational IT Plans (OITP) are based on OMB Circular A-11, Exhibit 300 and delineate the detailed actions and resources necessary to achieve the goals established in the Strategic IT Plan. The focus of the OITP is on the operating units' planned IT activities for the coming fiscal year and the achievement of performance measures required by the Government Performance Results Act (GPRA). The OITP is one piece of a coordinated suite of documentation, providing a linkage with the budget process and ensuring that related issues, such as the Enterprise Architecture, federal e-government initiatives, IT security, and privacy issues are considered on an ongoing basis. The OITP provides operational guidance to the operating units' IT managers, identifying specific schedules, acquisition plans, and performance measures.

THE COMMERCE ENTERPRISE ARCHITECTURE

Commerce has established an Enterprise Architecture (EA) that promotes the effective management and operation of our IT investments. The EA provides a comprehensive, integrated picture of current capabilities and relationships (the current architecture), an agreed upon

blueprint for the future (the target architecture), and a strategy for managing a transition from the current to the target environment. The EA also describes the information needed to carry out the Department's business processes; identifies the system applications that create or manipulate data to meet business information needs; and documents the underlying technologies that enable the generation and flow of information.

The EA is an essential tool for planning and managing the Department's resources and making maximum use of our limited IT dollars. It ensures the alignment of IT with the Department's strategic goals so that business needs drive technology rather than the reverse; identifies redundancies, and thus potential cost savings; highlights opportunities for streamlining business processes and information flows; assists in optimizing the interdependencies and interrelationships among the programs and services of the Department's operating units; ensures a logical and integrated approach to adopting new technologies; promotes adherence to Department-wide standards, including those for information security; and pinpoints and resolves issues of data availability, access, and quality.

Commerce's EA serves as an essential tool for strategic decision-making. DOC's enterprise-wide architecture program and processes allow the Department to plan cost-effective IT capital investments that are directly linked to the Department's missions and strategic goals. Our EA efforts are highly visible, contributing to both Commerce and government-wide efforts to achieve efficiencies through sound use of information technology. Both the Office of Management and Budget and the General Accounting Office are committed to the effective use of Enterprise Architecture, are actively promoting its value, and providing oversight to ensure the establishment of dedicated Enterprise Architecture programs. The Department's Enterprise Architecture Program and its integration with the IT Capital Planning and Investment Control Program were highlighted as one of three case studies in a government-wide report entitled "Enterprise IT Architecture, Capital Planning and Investment Control" prepared by the Federal CIO Council's Architecture and Infrastructure Subcommittee, under the direction of the Office of Management and Budget.

The Department has developed a cohesive set of Web-based architecture guidance documents, including standards, reference models, and best practices. These plain-English documents help ensure that each of the operating unit's architecture programs produces useful results and is in full compliance with the Clinger-Cohen Act and the Office of Management and Budget Circular A-130, which require an architecture process for each federal agency. Commerce also employs an Enterprise Architecture Capability Maturity Model. The model provides comprehensive guidance so that each operating unit can improve its architecture process each year and can link its architecture efforts with the IT Strategic Planning and IT Capital Planning processes. Commerce also measures against the OMB EA Assessment Framework. Measures against both models are steadily improving.

The General Accounting Office's Enterprise Architecture Management Maturity Framework evaluates whether the Department has a committee or group representing the enterprise that is responsible for directing, overseeing, and/or approving the Enterprise Architecture. The Enterprise Architecture Advisory Group admirably fills this role for Commerce. Information on the structure, roles, and responsibilities of the Advisory Group can be found at page 20 of this Plan. The Department is currently devoting significant efforts to the use of a software tool to help model and visualize the Architectures and ensure that the architecture process is active and dynamic.

The DOC EA is a federated architecture. The DOC EA is the union of the operating units' architectures and the overarching Department architecture. The Department architecture addresses lines of business and services common to all operating units. It establishes basic goals and directions, characterizes common systems and services, and defines fundamental standards universal to all operating units. This approach provides the operating units flexibility in executing their mission specific lines of business, while providing greater efficiency and reduced cost for the common lines of business. The diverse nature and mission of each operating unit mandates a federated structure, allowing each operating unit to define an architecture that best fits its business requirements. Where common tasks exist, however, an enterprise-wide approach is taken. In this way, each operating unit can fulfill its mission tasks, and provide the best service to all stakeholders and customers while supporting the overall goals of the DOC.

An example, the Commerce Business System (CBS) is a key component of Commerce's Enterprise-wide Administrative Systems Architecture. The CBS development team articulated an architecture for financial systems, with a Core Financial System at the center and multiple feeder systems that support separate financial functions, such as personal property and acquisition. This Financial Systems Architecture is a key component of the Department-level Architecture; the Office of the Chief Information Officer and the Commerce IT Review Board use this as a target architecture when analyzing proposals for new systems with financial implications, ensuring that redundant systems are eliminated and that all financial systems integrate with CBS.

Development of a solid Enterprise Architecture Program is a forward-looking, strategic planning effort that requires initiative and sustained work over a long period. As with any strategic planning function, benefits are generally realized in the long term. The proof of concept for the EA is in the selection and rational migration toward well-constructed target architectures. To this end, Commerce's continued developmental efforts are beginning to pay off in concrete ways. Some examples:

- The Census Bureau's 2010 Decennial Census Project is using the EA to guide decisions on what aspects can be outsourced, how the existing Census Bureau components can be reused, and what new components can be developed for reuse in the future. They have identified the use of handheld computers for field follow-up as a means of significantly reducing the overall cost by eliminating large amounts of paper that would have to be processed and the space needed to store and manage the documents. Cost savings are projected at $155 million.
- The Census Bureau's American FactFinder Web site took an architectural approach to designing a common public gateway to large volumes of statistical data by selected geographic locations from the 2000 Decennial Census, Economic Census, and American Community Survey. This system will also be used to disseminate the 2010 Decennial Census. This portal saves it's 10 million annual users an estimated $50 million in production of reports; interaction with users and data providers; and tabulation and creation of extensive analyses.
- The Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Enhancement project used the architecture to standardize the geographic coordinates for street locations in the TIGER database for use with Global Positioning System (GPS) technology. GPS technology will be utilized by handheld computers in

2010 Census field operations. It is estimated that the MAF/TIGER enhancement project will result in $583 million in cost avoidance.

- The NOAA Comprehensive Large Array-data Stewardship System (CLASS) initiative was developed through the evaluation of the existing NOAA architecture and a realization of the need for several line offices to significantly increase their data storage capacity. By developing a centralized data storage resource, NOAA is able to meet the line offices' storage needs at less overall cost and deliver a major customer benefit by providing a single portal for retrieval of archived data.
- The NOAA High Performance Computing initiative consolidates management of the resources of several organizations providing more capability without having to increase the number of supercomputers in use. NOAA has taken a corporate management and architectural approach that integrates like functions – research and development, and operations.
- The National Weather Service Telecommunications Gateway (NWSTG) initiative used the EA to consolidate three separate projects into a single integrated initiative. NWS has created an Integrated Project Office (IPO) to manage the consolidated projects as a single NWSTG Program. This approach to managing the three projects as one allows the IPO to have one Master Plan to provide an integrated view of the dependencies between projects, a consolidated budget plan with Earned Value Management, an overarching risk assessment and mitigation plan, and clear lines of communication and authority.
- NOAA used a detailed analysis of its network architecture to develop and execute a reconfiguration that simplified network management as well as providing a NOAA-wide directory service component.
- NOAA has extended architectural analysis to propose a platform that will integrate a wide range of network transport protocols through Multi-Protocol Label Switching. This approach may serve as a streamlining model for the rest of the Department.
- The US Patent and Trademark Office (USPTO) is using their EA to leverage overall modernization plans. By analyzing the business processes common to the processing of both patents and trademarks, they are designing a common approach to handle the input of applications either by mail or electronically, using electronic wrappers to identify documents and manage the workflow.
- Commerce's National Telecommunications and Information Administration (NTIA) is pursuing a Paperless Spectrum Management Initiative that comprises a business process reengineering effort, along with an architecture improvement program. The purpose of this initiative is to improve the process of granting licenses for radio frequency spectrum use, including flexibility in the review process, moving to near real-time license approval, and closer coordination among NTIA's more than 20 customer agencies. NTIA serves 56 federal agencies, including the governments of Canada and Mexico, and is sharing its strategic IT planning with a working group of representatives of these agencies. NTIA's improvement effort, which is documented in the Department's Enterprise Architecture and has been cited for its Services Oriented Architecture, dovetails with the President's Spectrum Policy Initiative.
- While many e-government initiatives are multi-agency efforts within the federal government, the Patent e-Government project is a global collaboration involving multiple countries and intellectual property organizations. Building on a long-standing

arrangement known as the Trilateral Offices (consisting of the European Patent Office (EPO), Japanese Patent Office (JPO), and USPTO), the USPTO and EPO have agreed to leverage each other's system capabilities. This will eliminate redundancy through reuse, and will be reinforced by adopting World Intellectual Property Organization (WIPO) standards to ensure global interoperability.

THE CAPITAL PLANNING AND INVESTMENT CONTROL PROCESS

The success of Commerce's IT investments directly influences the ability of the Department and its operating units to execute business plans and fulfill missions. Recognizing both the importance of IT investments to the organization and its role in supporting the success of these investments, OCIO has established a CPIC process. This guidance directs that investment control processes must include three essential phases: Select, Control, and Evaluate. Each phase is conducted as part of a continual interdependent management effort aimed at moving from a fixation on project-by-project focus to a wider, portfolio perspective of investment trends, directions, and outcomes.

Commerce's CPIC process links all IT investments to the strategic goals of the Department. The business case for each IT investment must identify its linkage to the Department's and operating unit's mission, goals and objectives, and address how it will enable and facilitate the achievement of the strategic goals and objectives

IT Portfolio Management and the Analysis of IT Investments

Commerce's IT portfolio management process is the foundation of the Capital Planning and Investment Control (CPIC) process and the Enterprise Architecture. Over the last few years we have significantly increased our ability to ensure that proposed and current IT investments align with the Department's strategic vision and actively contribute to our performance against Departmental goals. Working with the operating unit CIOs, the DOC OCIO has insisted that operating unit-level portfolio management processes link the strategic and operational goals to specific program initiatives and that strategic IT plans articulate how the CIOs' organization, mission, vision, and strategic approach will equip the operating unit with the tools needed to achieve their strategic and organizational goals.

Specific accomplishments that demonstrate enhanced capabilities in analysis of IT investments and IT assets within the various DOC operating units include the following:

Bureau of Economic Analysis (BEA)

BEA continues to refine its IT Portfolio Management Process (IT-PMP) each year as part of BEA's strategic IT planning process. The IT-PMP links BEA's strategic and operational goals to specific program initiatives in their Strategic Plan and articulates how the Office of the Chief Information Officer's organization, mission, vision, and strategic approach will equip BEA stakeholders with the IT tools needed to achieve their strategic and organizational goals. The IT-PMP serves as the guide to the Bureau's ongoing effort to improve the timeliness, relevance, and accuracy of its economic accounts, and to improve BEA's communications and information sharing with its customers. The IT-PMP also serves as a blueprint for the ongoing process of aligning information and emerging technologies with the business goals of the Bureau. This blueprint accomplishes the following:

- Guides the process of planning, acquiring, and deploying of IT resources.

- Ensures interoperability between BEA system components.
- Reduces information technology maintenance and support costs through BEA's centralized IT management process.
- Facilitates compliance with government-wide President's Management Agenda initiatives.
- Provides a road map for implementing new state-of-the-art technologies.
- Ensures that new technologies are implemented in accordance with BEA's target Enterprise Architecture.
- Assists in the development of IT performance measures utilized to rate projects relative to their contribution to BEA performance goals.
- Facilitates compliance with the eGovernment Act, FISMA, and other regulatory requirements.

Census Bureau

The Census Bureau is developing a structured and formal Information Technology (IT) investment oversight process that is based on the Government Accountability Office (GAO) Information Technology Investment Management (ITIM) framework. This business process model reflects the respective roles and responsibilities of the Information Technology Governing Board (ITGB) and the Operating Committee in selecting, controlling, and evaluating IT investments. The documented process ensures that all IT investments are assessed in a standard manner consistent with the ITGB charter.

The IT investment oversight process consists of three phases: the Select Phase, Control Phase, and Evaluate Phase.

Select Phase

During the first step of the Select Phase, program areas prepare and submit fact sheets to the Budget Division. Fact sheets provide a brief description of the initiative and define the need and concept of the proposed investment, emphasizing:

- Performance measures
- Stakeholders
- Operational impact
- Linkage with other initiatives/projects
- Procurement issues
- Cost estimates

During the second step of the Select Phase, the Budget Division reviews the fact sheets and submits them to the Operating Committee along with a Budget Summary of Analysis that includes the Budget Division's recommendations for approval/disapproval/modification. The fact sheets and Budget Summary of Analysis serve as a concept description upon which the Operating Committee bases the decision to approve or reject the initiative. If the Operating Committee approves the initiative, the program areas prepare an Office of Management and Budget (OMB) Circular A-11 Exhibit 300 – the third step of the Select Phase.

In this third step, program areas must conduct more detailed analyses of proposed projects, completing all portions of the OMB Circular A-11 Exhibit 300 requirements, which include:

- Summary of spending plan
- Detailed justification of the initiative
- Performance goals
- Identification of a project manager and the project team
- Alternatives analysis
- Risk assessments
- Acquisition strategy
- Project funding plan
- Definition of the project's alignment with the Census Bureau's Enterprise Architecture, CPIC process, and the Federal Enterprise Architecture
- Compliance with security and privacy

In the fourth and last step of the Select Phase, the program areas submit the Exhibit 300s to the ITGB for a review of the project's IT components and consideration of technological alternatives. Additionally, the ITGB compares the investment requirements to the existing IT asset inventory to check for asset duplication and reconciliation of overlapping resources. The program areas incorporate any necessary modifications based on the ITGB review, and recommend and submit the Exhibit 300 to the Budget Division to be incorporated into the Secretarial submission.

Using this four-step selection process, the Census Bureau is able to ensure that all approved IT projects fulfill the business needs of the program areas as well as comply with the IT standards and requirements of the IT Directorate.

Control Phase

Projects approved by the ITGB, the Census Bureau's senior leadership, the Department of Commerce (DOC), or the OMB proceed to the Control Phase. Projects going through the Control Phase can be sent back to the Select Phase when required by the ITGB or the Census Bureau's senior leadership. The Information Systems Support and Review Office (ISSRO) planning staff monitors and reports on each project's progress to the ITGB on a quarterly basis. The ITGB predominately focuses on projects that have variances of -10% or more (OMB requirement) in cost, schedule, or performance.

As part of the Census Bureau's efforts to enhance the management oversight of IT projects in the Control Phase, the Bureau's Chief Information Officer (CIO), at the direction of the Census Bureau Deputy Director, developed and implemented an IT Purchase Planning Oversight Committee responsible for reviewing, evaluating, and recommending approval/disapproval for significant IT acquisitions prior to purchase. This committee, which is comprised of senior IT managers in the IT Directorate, is responsible for reviewing proposed purchases to verify if they are properly described and documented in an approved IT Business Plan (ITBP) or Exhibit 300/Capital Asset Plan. This procedure has enabled the Census Bureau to consolidate similar IT purchases and obtain better discounts for the government, and to fulfill user requirements using previously purchased IT assets, thus avoiding the cost of purchasing redundant assets.

Evaluate Phase

The Evaluate Phase assesses a project's actual performance, cost, schedule, and Enterprise Architecture (EA) results against its planned values. In this phase, lessons learned are applied to other current and future projects.

Economic and Statistics Administration (ESA)

ESA's IT portfolio is designed with input from all the offices and the IT Steering Committee, which includes senior-level management. Projects are either received as input from the offices or directly from the Office of the Chief Information Officer and evaluated and approved by senior management. Only projects that support the mission of the organization are considered for inclusion in ESA's IT portfolio, and only those projects that are approved by the IT Steering Committee are pursued. ESA's Strategic IT Plan and Operational IT Plan guide all IT processes and provide the Office of the Chief Information Office with the necessary documentation and tools to accomplish short and long-term goals.

Since fiscal year 2003, when ESA's Office of the Chief Information Officer was established, ESA has seen a dramatic improvement in the management of its IT resources and internal decision-making process. Once the Agency's Strategic and Operational IT plans were developed, ESA produced its IT Portfolio Breakout Table that provides detailed information on each project pursued by the organization. Increased participation and input from all the offices has helped ESA better align its goals with the organization's mission and to more efficiently allocate its IT assets. Each project is tracked and monitored against the Breakout Table at every stage of the process. Although ESA does not manage a large IT budget, adherence to Departmental guidance has streamlined its IT portfolio management process and ensured a more transparent management of IT resources.

Economic Development Agency (EDA)

EDA has had an active IT planning process in place for several years, and has established a formal investment review process. EDA develops and manages its IT budget centrally, with direct oversight by the CIO. The CIO prepares the agency IT budget and submits it for review and concurrence by the members of the EDA Information Technology Review Board (EITRB). The Board monitors project status and performance, and recommends corrective action on projects when necessary. Through this oversight and management, EDA has improved the quality of its business cases and demonstrated effective management of its IT program, keeping costs within an established budget baseline that has seen no increases since FY 2002. The agency's participation in the recent project management training courses sponsored by the Department has had a direct and positive impact on the efficiency and performance of EDA's IT project managers.

International Trade Administration (ITA)

ITA continues to manage and enhance its IT portfolio in a way that ensures proposed and current IT investments actively contribute to the Department's strategic vision and performance. For example, to achieve desired benefits and better realize Department goals, the ITA CIO has advocated the development of enterprise system solutions and the integration of ITA plans with Department plans. Also, by integrating the ITA e-Governance Council with the Strategic Planning Leadership Team, the ITA CIO has actively involved more senior managers and leadership in the portfolio management and review process. Combining the two management

groups means that program, administrative and technology perspectives of the IT and program portfolios can be addressed routinely at the most senior levels.

In addition to advocating enterprise-wide IT solutions and the integration of IT plans with Department plans, ITA's CIO participates with other ITA senior management from the program units to standardize technology solutions and to better manage the IT investment portfolio. The ITA CIO is also aligning architecture efforts to support more directly the technical and organizational aspects of portfolio management and analysis so that ITA's CPIC practice and maturity level ratings continue to improve over the next few years.

ITA's increased emphasis on involving senior leadership in IT portfolio management, adopting comprehensive IT decision-making processes and project management disciplines is helping move ITA more quickly towards enterprise-wide computing and towards higher levels of integration with Department and federal program and service-delivery efforts, especially in the e-government world.

National Oceanic and Atmospheric Administration (NOAA)

NOAA has implemented a Planning, Programming, Budgeting, and Execution System (PPBES) as a component of its IT portfolio management process. NOAA's PPBES and Capital Planning and Investment Control (CPIC) process are integral to the entire portfolio planning process and serve as primary tools in the analysis of all NOAA IT investments.

NOAA's Portfolio of IT investments is structured such that a clear linkage exists between each IT investment and one or more of NOAA's strategic goals. The analysis of every NOAA IT investment is conducted with a view toward the strategic goal supported by the investment. This serves to ensure that investments in IT resources provide a direct and focused contribution to NOAA's ability to accomplish its mission goals. To maintain this mission-oriented focus, each of NOAA's mission goal teams includes a NOAA line office CIO as an active voting member.

After a mission goal team has fully developed a concept for a proposed new IT investment initiative, the agency-wide NOAA IT Review Board (NITRB) reviews the investment proposal for approval and possible further recommendation to the Department of Commerce IT Review Board. NITRB reviews focus on the business case for the proposed investment, including the performance measures to be instituted and the strategic fit of the investment within NOAA's overall IT investment portfolio. The NITRB also evaluates proposed investments for compliance with the performance-based management, IT security, risk assessment, and enterprise architecture requirements of OMB's Circular A-11. To gain NITRB approval, a proposed IT investment must also demonstrate full life cycle cost planning and, where possible, represent an approach to an enterprise solution rather than a "stove pipe" process.

NOAA is continuing to focus on strengthening the IT investment analysis process in all of its line offices. In concert with a Department-wide effort to improve the management of its IT investments, NOAA is committed to managing its IT investments within aggressive cost, performance, and schedule monitoring. In FY05 the NOAA CIO instituted monthly Earned Value Management (EVM) and Operational Analysis (OA) reports from NOAA Line Office executive management. NOAA's analysis of existing IT investments focuses on maintaining variance within plus/minus 10% and requiring mitigation plans from project managers when parameters are exceeded.

National Institute of Standards and Technology (NIST)

NIST has recently completed an effort to more formally define the boundaries of its IT portfolio. This has led to a more enterprise-oriented view of all NIST IT assets in that it has helped to define the features that comprise various specific IT investments and how those investments will be managed. This has improved the IT Capital Planning and Investment Control process by providing a consistent mechanism for organizing approval submissions and managing those submissions as they move through the approval and review process. NIST now uses an automated process to submit procurement requests for CIO review and approval of IT development services. This has enabled the NIST CIO to better manage the development or enhancement of systems in the NIST IT portfolio, both within the administrative and research organizations of NIST. Additionally, NIST has reduced the number of systems in its IT portfolio by combining similar systems and by simply eliminating a number of obsolete legacy systems. This effort has led to a reduction in the number of IT systems in NIST's inventory from 120 to 112.

Use of the Program Assessment and Rating Tool (PART) in the Alignment of the DOC IT Portfolio

The PART, as it is applied throughout DOC, provides a consistent approach to rating operational programs across the entire Department. The PART is a diagnostic tool that relies on the user's professional judgment to assess and evaluate programs across a wide range of issues related to performance.

Because each of the programs evaluated with the PART directly contributes to one or more DOC strategic goals, the alignment of our IT investments with our PART-evaluated programs is a natural outflow of the CPIC process. Commerce's IT portfolio is managed with input from all the Department's operating units and the CITRB, which includes executive management from throughout DOC. Only IT projects that directly contribute to the mission goals of both the operating unit and the Department are considered for submission to the CITRB, and of these proposed investments, only those achieving approval by the CITRB are incorporated into the Department's IT portfolio. PART assessments help identify program strengths and weaknesses and help inform management actions, funding recommendations, and legislative proposals aimed at improving performance and achieving better results. The role of the PART in DOC's management of its IT portfolio is to focus attention on programs that could benefit from additional resources devoted to one or more IT investments or the realignment of resources already deployed.

Last year, the Program Assessment Rating Tool was applied to 23 Commerce programs. From these 23 assessments, Commerce achieved the following assessment results:

Rating	Number
Effective	6
Moderately Effective	7
Adequate	6
Results Not Demonstrated	4

Specific activities describing the alignment and integration of our IT portfolio within various DOC operating units are described below:

Bureau of the Census

Using the PART formalizes performance evaluation, thus developing defensible and consistent ratings of Census Bureau programs for the FY 2005 budget and beyond. Based on this guidance, the Census Bureau selected five programs for evaluation. These programs, along with their PART ratings, are as follows:

Program	**Rating**
Current Demographic Statistics	Effective
Economic Census	Effective
Survey Sample Redesign	Effective
Decennial 2010	Moderately Effective
Intercensal Demographic Estimates	Moderately Effective

After the PART review, it was determined that Decennial 2010 had weaknesses in Section 4, Program Results. Decennial is aware of these weaknesses and continues to improve the performance measures for this program. Current Demographic Statistics, Economic Census, Survey Sample Redesign, Decennial 2010, and Intercensal Demographics Estimates demonstrate better control over resources used and accountability for results by program managers. The constant monitoring of the four sections within the PART review allows continuous improvement.

Bureau of Economic Analysis (BEA)

Annually, BEA aligns IT strategic and operational goals directly with the Bureau's program objectives. The alignment provides BEA with a clear line-of-sight business impact of its IT investments. In addition, BEA's Operational Analysis System incorporates performance measures that are aligned with internal program performance goals, as well as those included in the Office of Management and Budget's (OMB) Performance Assessment Rating Tool (PART). This alignment allows BEA, through the Information Technology Executive Steering Committee (ITESC), to assess the cost and performance of IT initiatives against the baseline goals established in the annual strategic planning process as included in the PART.

BEA maintained OMB's top rating of "effective" for a third year, thus making it one the six highest scoring programs in the Department of Commerce.

Economic Development Administration (EDA)

EDA was the subject of a BY 2006 PART review, with an overall rating of "Moderately Effective." The findings of EDA's PART review related to the uniqueness of EDA's programmatic contribution, the specific attribution of successes to EDA's efforts, and the feasibility of independent evaluation of EDA's performance measures. The PART review findings did not address any issues directly or indirectly relating to EDA's use of IT resources. EDA's primary long-term outcome goals, the promotion of private enterprise and job creation, do not involve significant IT investments, and thus do not impact the alignment of EDA's IT investment portfolio. Should future PART recommendations impact on areas where EDA could benefit from the realignment of IT resources, the approach to such a realignment will be focused on improvements in EDA's core business functions and the alignment of the IT investment portfolio to those business functions.

International Trade Administration (ITA)

Currently ITA is using the Program Assessment and Rating Tool for reviewing two of its major program components: the Market Access and Compliance unit that keeps world markets open for exports, and the Import Administration which enforces trade laws. Although both reviews are almost complete, no recommendations have yet been issued and will be reported at a later date.

Last year ITA completed a review of the U.S. Commercial Service and has fully addressed the recommendation relating to the International Trade Process Streamlining program. The recommendation called for consolidation of a number of Web sites, a reduction in the number of servers deployed online, and incorporation of a significant amount of Web content into the Export.gov program. Although this PART recommendation was fully addressed, ITA plans further consolidations of both Web sites and servers, demonstrating the active alignment of PART recommendations with ITA IT portfolio management.

Minority Business Development Agency (MBDA)

MBDA was the subject of a BY 2006 PART review and the findings of the review reflected needed improvements in the coordination among other minority business development programs, closer oversight of grantees, and improvement of performance measurement techniques.

The business development efforts administered by MBDA do not involve significant IT investments, and thus do not impact the alignment of MBDA's IT investment portfolio.

National Institute of Standards and Technology (NIST)

Three NIST programs, Advanced Technology Program, Manufacturing Extension Partnership, and NIST Laboratories Program, were subjected to FY 2005 PART reviews. The overall rating scores for these programs were as follows:

Program	**Rating**
Advanced Technology Program (ATP)	Adequate
Manufacturing Extension Partnership	Moderately Effective
NIST Laboratories	Effective

While none of the PART review findings for these three programs point to IT-related deficiencies, all three of these programs are regularly subjected to management reviews by their individual Advisory Boards, and the Boards' findings become input to the annual NIST Strategic Plan and Strategic IT Plan. Through the strategic planning processes, NIST has been able to make subtle but meaningful adjustments to its IT investment portfolio to more effectively align and integrate with the NIST Laboratories program of scientific research projects.

National Oceanic and Atmospheric Administration (NOAA)

NOAA has seven programs for which PART reviews have been done. These programs, and their respective PART ratings are:

Program	**Rating**
National Weather Service	Effective
NOAA Navigation Services	Moderately Effective
National Marine Fisheries Service	Adequate

Pacific Coastal Salmon Recovery Fund	Results Not Demonstrated
Coastal Zone Management Act Programs	Results Not Demonstrated
NOAA Protected Areas	Adequate
NOAA Climate Program	Moderately Effective

The results of PART reviews conducted against NOAA programs are utilized as part of the IT investment review and analysis process, and serve as a tool used in the alignment of our IT investment portfolio with our core business functions. NOAA's large programs are supported by a wide range of IT investments, each of which is managed as a component of our overall IT portfolio. Within the portfolio management process, recommendations resulting from PART reviews drive specific actions such as the review and update of business cases, (re)evaluation of relationships between portfolio components, and adjustments of outcome-oriented performance measures. Performance measures for specific IT investments are aligned with overall programmatic performance measures to ensure that IT investments directly relate to the expected outcomes of an agency program.

PART Program Summaries were provided for two NOAA programs: 1) NOAA Climate Program, and 2) NOAA Protected Areas Programs. The summaries indicated the following:

The NOAA Climate Program achieved a PART rating of "Moderately Effective". The assessment found that the program is relatively strong and has taken steps to improve program management and focus on results, though further organizational improvements are still needed. Through the U.S. Climate Change Science Program, NOAA coordinates with other federal agencies to minimize duplication and improve effectiveness of government-wide climate science efforts. The NOAA Research Review Team, a Science Advisory Board review panel, noted deficiencies in management of NOAA's laboratory activities and recommended several organizational changes, including consolidation of labs to promote better coordination and increase responsiveness of research to NOAA's operational and information service needs. NOAA has implemented a matrix management process to coordinate climate programs across the agency and has established a quarterly review process to assess performance and budget issues. Additional steps are needed to better integrate performance into budget decisions.

The NOAA Protected Areas Programs achieved a PART rating of "Adequate." The NOAA Protected Areas program is made up of the National Marine Sanctuaries Program (NMSP) and the Marine Protected Areas Center (MPA Center). The assessment found that the NMSP and MPA Center have clear purposes and are well managed, though integration between the two, as well as with other coastal and marine area management programs, could be improved. The NMSP will continue to ensure that targets and timeframes for performance measures are ambitious. NOAA will establish review processes at the appropriate level and frequency to evaluate the effectiveness and relevance of coastal and ocean area management programs.

United States Patent and Trademark Office (USPTO)

Two USPTO programs were the subject of PART reviews in BY 2005. These programs and their respective overall ratings were:

Program	**Rating**
USPTO – Trademarks	Moderately Effective

USPTO – Patents	Adequate

The performance baselines for both of these programs involve goals which relate directly to USPTO's IT investment portfolio. In addition to performance goals relating to the quality and timeliness of services provided to customers, these PART-specific performance measures include an increase in the numbers of trademark and patent applications that are to be processed electronically. USPTO has made significant adjustments to its IT investment portfolio to align with these business goals. USPTO's approach to this alignment is part of the Patent e-Government effort, described more fully on page 44 of this Strategic IT Plan.

Communicating IT Objectives

COMMERCE CHIEF INFORMATION OFFICERS' COUNCIL

The Departmental CIO views the CIO Council, composed of operating unit CIOs, as a management team working together to achieve common objectives. Through the CIO Council, operating units have a venue in which to share experiences, ideas, best practices, and innovative approaches related to information resources management.

The CIO Council's vision is to be a resource to help the Department's operating units perform more efficiently at lower cost by promoting the efficient and effective use of Departmental information resources. The CIO Council supports business process reengineering, continuous process improvement, and measurable increases in performance in the work related to the achievement of Departmental missions, goals, and objectives.

The CIO Council provides an opportunity for all DOC operating unit CIOs to confer in the following areas:

- Implementation of an effective process for managing IT resources and providing regular briefings to the DOC CIO on IT program activities.
- Implementation of a process for the selection, control, and evaluation of IT investments.
- Annual self-assessment of the maturity of the operating units' CPIC process.
- Keeping abreast of DOC guidelines for developing and maintaining operating unit planning and investment review processes.

The Department's CIO Council meets monthly to share information, promote Departmental IT goals, and keep abreast of public and private sector leading IT management practices.

DEPARTMENT OF COMMERCE ADVISORY GROUPS

As Commerce has continued its work toward fulfilling its various strategic goals, we have maintained a focus on innovation; attempting to develop a complete understanding of the needs of our customers, business partners, and stakeholders. This focus on innovation allows us to identify both efficiencies and gaps in services, and to identify solutions that are as comprehensive as possible. Additionally, we strive to find ways to incorporate our users' understanding and acceptance into the concept and development phases of our business processes. One concept that we have incorporated in accomplishing this goal is the use of advisory and other groups. These groups, made up of technical and program representatives from the DOC operating units, are tasked with addressing specific IT-related challenges facing the Department.

The fundamental idea behind forming advisory and other groups is that those involved in providing particular services are in the best position to make decisions about how to coordinate, implement, and improve them. The group is able to synthesize greater knowledge as to what has worked well, what hasn't, and what problems can occur. By drawing on members from all areas of Commerce, the group is better able to understand the needs of our customers, business partners, and stakeholders and to devise effective and efficient ways of meeting those needs.

Commerce has utilized advisory and other groups to develop, recommend, or facilitate technical solutions in a number of areas. These groups are formed as a need arises and are typically disbanded when a technical solution is in place, fully operational, and no longer in need of continual maintenance attention. Groups that have completed their work include the Contingency Planning Advisory Group, which published a comprehensive guide to business continuity planning, and the Electronic Forms Advisory Group, which published a Web site of Commerce and government-wide electronic forms. Groups that have largely completed their work, but continue in an advisory capacity, include the Accessibility Coordinators Group, which published Commerce's policy addressing accessibility under Section 508 of the Rehabilitation Act and continues to monitor accessibility activities within Commerce and elsewhere, and the Information Quality Task Force, which published Commerce's Information Quality Guidelines, provides advice to operating units that receive requests for corrective action, and submits annual and ad hoc reports to the Office of Management and Budget on information quality activities. The Information Quality Task force also has responded this year to the OMB Peer Review Bulletin and posted an agenda of peer review plans.

Advisory groups currently operating within Commerce include the following:

Commerce Enterprise Architecture Advisory Group

An Enterprise Architecture is recognized by Commerce's CIO as an integrated framework for evolving and maintaining existing IT, and for acquiring new IT. The Enterprise Architecture is a means to achieve federal strategic and IT goals by integrating work processes and information flows through the use of technology. The architecture specifies standards that enable information exchange and resource sharing. To ensure that this information exchange and resource sharing are maximized throughout the Department and that our operating units are able to make maximum use of a "blueprint" that explains and guides our organization's IT and information management elements, the Department has chartered an Architecture Advisory Group.

The Department's Architecture Advisory Group serves as a Department-wide forum for addressing issues related to the implementation and use of Enterprise Architectures. The Advisory Group reports to the CIO Council and serve as technical counsel to the DOC Chief Information Officer (CIO) and the CIO Council on the subject of Enterprise Architecture. It is viewed by the CIO Council as a resource to assist the various operating units in the development of consistent IT Enterprise Architecture(s) throughout the Department.

The DOC Architecture Advisory Group is specifically tasked to make recommendations and provide advice with respect to policy, procedures, standards, and payoff as they relate to the development, maintenance, and evolution of the Department's Federated Enterprise Architecture(s). This tasking has, to date, included activities to:

- Make recommendations and provide advice to the DOC CIO and the CIO Council with respect to policy, procedures, and standards related to the maintenance and update of the Enterprise Architecture.
- Review all operating unit architectures and provide recommendations through the CIO to the operating unit CIOs.

- Manage development and acquisition of a unified EA management system tool for DOC and promote its use throughout the DOC, as specified in the DOC Technical Reference Model (TRM).
- Coordinate the interface between the Department's EA management system tool and OMB's Federal Enterprise Architecture and the related five Reference Models (Business, Service Component, Technical, Performance, and Data).
- Recommend technologies that may serve as "foundations" for Department-wide systems.
- Carry out tasks specifically assigned by the CIO or the CIO Council.
- Identify improved architectural practices and promote their adoption throughout the Department.
- Share experiences, ideas, and promising practices among Advisory Group members and the CIO community at large.

Project Management Advisory Group

The DOC Project Management Advisory Group (PMAG) was formed with the dual intentions of standardizing project management practices within the Department and developing/maintaining a cadre of project managers with demonstrated professional qualifications and credentials. The PMAG has formulated a policy statement relating to IT project management practices within the Department and has developed a set of metrics from which a project manager may establish a standardized set of project management methodologies. The PMAG also participated in the formulation of a set of project manager qualification and certification guidelines and has worked closely with the DOC Office of Human Resources Management to develop a recommended project management education and training curriculum.

The PMAG is currently compiling a set of project management best practices, which will allow a DOC project manager to develop a project management strategy to the specific complexities of a particular project.

Webmasters Advisory Group

The Webmasters Advisory Group (WAG) provides advice to the CIO and CIO Council on matters that address use of the World Wide Web. Because use of the Web is central to Commerce's e-government activities, careful use and management of Commerce's Web sites is critical to the success of our e-government strategy. The WAG has published a series of policies addressing such Web issues as privacy, accessibility, domain names, and identification of Web site owners, endorsement disclaimers, and content management. Additional policies are under development.

Information Technology Security Coordinating Committee

The maintenance of an effective IT Security program continues to be an ever-important factor in the proper management of Commerce's IT resources, and the Department remains dedicated to meeting the challenge of protecting all its vital information assets. Part of the IT Security challenge is in ensuring full and open communication among all our operating units. To meet this challenge, the Department formed the Information Technology Security Coordinating Committee (ITSCC). The ITSCC is chartered by the Departmental CIO and serves as a Department-wide forum for addressing issues and making recommendations related to IT

Security responsibilities and activities. The ITSCC provides a forum for discussion of issues, has formed working groups to address specific IT security issues, and provides recommendations concerning IT security throughout the Department. The ITSCC has also proven to be a fruitful training field for new IT Security Officers and a source of continuing education for current IT Security Officers. The ITSCC meets on a monthly basis and often serves as the impetus for new IT security-related initiatives.

Commerce has established a Department-wide forum for the development of incident response capability procedures, responsibilities, and activities that will be used within DOC to establish the Federation of Computer Incident Response Teams (CIRT) structure and address issues pertaining to computer incident and response services. Within Commerce, this Federation of CIRTs consists of the formally designated Commerce incident response capabilities. The information sharing enables analysis of Department-wide threats as well as consideration of Department-wide solutions for incident detection and response. The Federation of CIRTs will establish relationships with other incident response organizations, such as the US-CERT, and share relevant threats, vulnerabilities, or incident data. The DOC Office of the CIO will approve all policies and procedures for operation of the DOC Federation of CIRTS. For inclusion in the Federation of CIRTs operating procedures, the Department requires submission of each operating unit's incident response standard operating procedures to the DOC Office of the CIO.

DEPARTMENT OF COMMERCE HONOR AWARDS PROGRAM

Within the Department of Commerce, we're dedicated to maintaining a corporate culture of excellence and a commitment to exceptional performance in our everyday work. As a result, we have set ourselves the challenge of delivering only the highest quality services. Our belief is that one of the best ways of achieving excellence is to acknowledge the exceptional performance of individuals and organizations throughout the Department. In support of this commitment, DOC's Honor Awards Program was created to recognize those who set the highest standards of performance, thereby raising the bar for us all.

The Honor Awards, in the form of Gold and Silver Medals, constitute the highest and second highest levels of recognition granted for distinguished and exceptional performance within the Department of Commerce. Although no monetary reward is associated with this recognition, it is clear that Commerce employees regard these awards as the ultimate recognition for their contributions. A Bronze Medal is the highest honorary award granted by an operating unit, a Secretarial Officer or equivalent, and is defined as superior performance characterized by outstanding or significant contributions, which have increased the efficiency and effectiveness of the operating unit. To warrant a Bronze Medal, a contribution must focus on qualitative and quantitative performance measures reflected in the Department's Strategic Plan.

Over the past several years, honor awards in all categories - Gold, Silver, and Bronze - have been granted to individuals and groups throughout the Department who have made significant contributions to the innovative planning and management of Commerce's IT resources.

We feel that these honors recognize the collaborative commitment to excellence exhibited by the IT professionals from throughout the Department, and serve as firm evidence of the high quality with which DOC IT initiatives are managed. Without the contributions of these cross-Departmental groups and a sincere dedication to quality at the individual level, many of our leading-edge initiatives would never have come to fruition.

OCIO Goals, Strategies, and Performance Measures

Goal 1 To continue to improve our support to the Department's customers and business partners by maximizing our use of the Internet and aligning our on-line business functions with federal e-government and Line of Business initiatives.

Through the Department's CIO Council and its advisory groups, Commerce's operating units have worked together to identify common technical solutions for the implementation of Internet-based services. Each of the operating units and Departmental offices has made great strides in achieving internal interoperability and providing new and more efficient services to our customers and stakeholders. Our approach to date has been to create innovative solutions, rather than simply automate existing processes. We have transformed the Department of Commerce into a truly electronic government entity, demonstrating significant performance gains, and providing leadership at the national level. It is our intent to continue this transformation by delivering even more of our public-facing services through the Internet and to improve efficiencies government-wide by consolidating and integrating our on-line services with established federal e-government and Line of Business initiatives.

The strategic initiatives outlined below were developed to support an electronic government. They are based on an assessment of our agency's baseline situation and its challenges and risks, the performance metrics we are using to measure success, and the investments in people, processes, and technological infrastructure required to achieve our goal of an expanded electronic government capability.

Strategy 1.1: Require, through the IT planning process and the CPIC process, that the Department's information collection and dissemination activities make maximum use of the Internet, using innovative technologies to provide our customers with easier and more efficient access to our e-government capabilities.

Initiative: The CITRB process for approval of new IT initiatives requires the establishment of a measurable e-government goal and the submission of a business case that demonstrates the innovative use of the Internet to reduce the reporting burden placed on our customers.

Each operating unit has addressed, in their Strategic IT Plan, a methodology for furthering the Department's e-government goals and implementing Internet-based e-government initiatives. The implementation of these methodologies is a criterion against which the operating units are assessed in the CITRB review process.

Strategy 1.2: In order to further maximize the efficiencies of our e-government offerings, Commerce has eliminated redundancies between our offerings and other, federal-wide e-government and Line of Business initiatives. Additionally, we have aligned all of our e-government initiatives with federal-wide e-government and

Line-of Business initiatives, and we will conduct annual reviews to ensure that this alignment continues.

Performance Measures:

1.1 DOC's progress in embracing the Internet as a customer-service vehicle is exemplified by the implementation of our Commerce is e-Gov Web site, through which the public is able to buy products, obtain information, and apply for fishing permits, export licenses, and patents and trademarks.

Commerce has demonstrated effective use of the Internet by converting 80 percent of our transactions with the public to an electronic format and making most of these transactions achievable through the use of electronically fillable forms. This has helped us to achieve our aggressive e-government goals and significantly reduce the amount of paperwork required, both in our dealings with the public and in internal Departmental operations. Future goals include incorporating these electronic-fillable forms into end-to-end electronic processes that will remove one more layer of manual intervention from our business processes.

In addition to eliminating the need for paper-based transactions, DOC has made significant achievements in the area of Web-based public informational services. Our progress in offering our services and products online is demonstrated by the amount of traffic experienced by the Department's Internet Web sites. Commerce consistently ranks among the top three government agencies (including federal, state, and local entities) serving a unique audience on the Internet. Measured on a monthly basis, and including both private-citizen and business-related usage, Commerce serves an audience that consistently approaches 8 million citizens each month. NOAA's National Weather Service Web site is particularly popular during the June to October hurricane season.

Additional statistics that point to Commerce's success at providing services online are:

- We rank well within the top 100 Web properties on the entire Internet and the top three government agencies in terms of unique users who regularly access our Web sites.
- NOAA's Web site experiences more visits per user than any other government site.
- Commerce is a particularly "sticky" Web site in that it ranks among the top 20 to 30 Web sites nationally, for the amount of time a user spends on the Web site.
- Measuring our unique audience on a monthly basis, and including both private-citizen and business-related usage, Commerce, as a brand, has been ranked as high as the 50th most popular Web site on the entire Internet.

Commerce's policy regarding its Web sites is structured to ensure that all of our Web sites are in compliance with appropriate legislation and regulations.

Departmental policy requires that operating unit CIOs certify to the Departmental CIO that all Web sites maintained by their organization comply with the Department's Web policies. These policies address issues including content management, Web site traceability and accountability, Web site accessibility, visitor privacy, appropriate use, annual Web site certification, and inclusion of privacy policies in Platform for Privacy Preferences format. While compliance with those policies requiring significant infrastructure investment lag behind the more easily achieved policy requirements, Commerce's compliance rates range from 92% to 98%.

1.2 Commerce continues to serve as the managing partner for the e-government International Trade Process Streamlining (ITPS) initiative. ITPS is a seamless environment within which small and medium-sized enterprises (SMEs) can research markets, gather trade leads, and conduct a majority of their export transactions on-line. Through ITPS, U.S. businesses are able to achieve real cost savings by reducing the amount of time they spend gathering information, completing forms, and interacting with disparate government agencies. ITPS has consolidated and integrated the export process online under Export.gov, which includes foreign partner matching/verification, export financing and insurance, and consolidated market research. The interagency aspect of ITPS has been further expanded to include the NAFTA Certificate of Origin form, the integration of content from the United States Department of Agriculture's Foreign Agriculture Services into Export.gov, and an online credit application. Companies interested in evaluating U.S. trade relationships with foreign markets can retrieve the latest annual trade data, visualize, analyze, print, and download customized output using Export.gov's interactive tool, TradeStats Express.

Commerce is also a participant in 24 other e-government and Lines of Business initiatives. The Department's CIO has taken an aggressive stance and is committed to eliminating any duplication with any government-wide e-gov initiative. Commerce's strategy toward participation in federal e-government initiatives dictates that we will provide back-end processing only for the various e-government portals and storefronts.

The Department also participates in numerous crosscutting programs involving multiple bureaus; other federal, state and local agencies; foreign governments; and private enterprise. The Departmental CIO has stressed to the operating unit CIOs the importance of seeking opportunities for further participation in interagency e-government initiatives. Specific areas where Commerce sees possible opportunities to establish further e-government involvement include:

- Commerce leads and the Secretary chairs the federal government's Trade Promotion Coordinating Committee (TPCC), which consists of at least 20 agencies, and seeks to establish a government-wide strategy for export promotion activities.
- EDA builds partnerships with federal, state, and local entities including: the Federal Emergency Management Agency (FEMA), the Environmental Protection Agency (EPA), the Department of Energy (DOE), the Department of Labor (DOL), the Department of Agriculture (USDA), the

Department of Transportation (DOT), the Department of Housing and Urban Development (HUD), the Appalachian Regional Commission (ARC), and the Denali Commission.

- BEA relies on the Census Bureau, Bureau of Labor Statistics (BLS), and the Internal Revenue Service (IRS) as data sources. Census provides BLS with monthly unemployment data. BEA also works closely with other agencies producing statistics including the U.S. Departments of Agriculture, Defense, Education, Energy, Health and Human Services, Transportation, and Treasury.
- Census works with state governments to make data available locally to the public through a variety of channels. Census also works with foreign governments through the International Programs Center to assist in the use of statistics.

Commerce feels that, as a provider of information to a user community of citizens, it is important to periodically evaluate whether the service is meeting the needs of its users. Often times, direct communication can provide useful feedback for changes as well as new ideas for future products.

One example of our performance measurement via direct customer feedback is the annual NOAA Data and Information Users' Workshop hosted by NOAA's National Environmental Satellite, Data, and Information Service. The workshop provides a forum for scientists, researchers, managers, and technicians from NOAA to meet with the data user community. Users from academia, the private sector, the research community, and the government provide independent input that assists NOAA in planning for the future of data and data delivery. The goals of the workshop are to:

- Assess users' needs and societal benefits.
- Review and update users' needs for new products, data archiving, and access to stored data and plans.
- Improve communication and rapport with users.
- Solicit users' opinions on current data and information products and services.
- Inform users of future capabilities, plans, and data sets.

During the most recent workshop, users made recommendations which touched most frequently on ensuring that user communities have input into decisions affecting them; integrating multiple data sets into a seamless environmental database; and maintaining human customer interface. NOAA considers this workshop and the recommendations provided by the user community to be crucial to maintaining a continuing dialogue with its constituents, and evaluates and follows through on each recommendation.

The International Trade Administration (ITA) also relies on direct customer feedback for performance feedback. ITA collects Export.gov "Ease of Use" performance scores and enters them into an ITA-wide performance measure tracking system. ITA's tracking system, utilizing Panorama Business Views,

allows performance measure owners to input performance measure results, track progress, view, and run reports on all ITA performance measures and metrics.

Export.gov's customer satisfaction and site usability ratings are collected using a five-question online Export.gov Feedback form, accessed from the Export.gov home page. The feedback form includes a number of open-ended questions which allow the user to specify the type of information they were seeking, describe the usefulness of the site's search capabilities, and provide suggestions for improvement. Export.gov's primary performance measurement, defined as "Customers' perception of portal ease of use," is measured by responses to a closed-end question which asks, "How would you rate the usability of Export.gov?," and allows response on a scale of 1 to 5:

5 – Excellent,
4 – Very Good,
3 – Good,
2 – Fair, or
1 – Poor.

For fiscal year 2004, ITA had established a performance goal of 75% of survey respondents rating Export.gov at "Good" or higher, and actual performance for the year was 79%. The performance measure for fiscal year 2005 was set at 80% of respondents' ratings at "Good" or higher, and experience year-to-date indicates a "Good" or higher response of 84%.

1.3 DOC operating units' IT planning processes also examine new applications of IT to support electronic government objectives, and assess the impact of the selected technologies on program efficiency and effectiveness.

An example of DOC's attention to the examination and assessment of new technology is provided by the Census Bureau's experience in the 2002 Economic Census. In accomplishing the 2002 Economic Census, the Census Bureau offered electronic reporting to all 3.5 million participating businesses. In an innovative use of XML and a meta data repository, businesses were able to download forms from the Internet, and file them on the Census Bureau's Web site. More than 50,000 online requests for extensions, re-mails, and additional form requests have been made using the Census Web site.

Goal 2 To further improve the Department's Capital Planning and Investment Control process, ensuring that the portfolio of investments in IT resources is supportive of Commerce's strategic goals.

Strategy 2.1 Institutionalize a process of continual improvement in the IT Capital Planning and Investment Review process and ensure that Commerce's Departmental vision for IT management is fulfilled and enhanced at the operating unit level.

Initiative: Increase the CITRB's CPIC oversight capabilities by:

- Continuing pre-reviews in project management planning, enterprise architecture, and IT security.

- Maintaining a cyclical review process through which all IT projects/systems are reviewed and the Department's IT portfolio is systematically analyzed and adjusted.
- Ensuring that all IT projects/systems contribute to the Department's top-level performance measures and expanding the Department-level compliance review process relative to policies and architecture.

Performance Measures:

2.1 Commerce's Departmental CIO relies on the CPIC Maturity Model to assist our operating units in focusing on key elements of the CPIC process and developing a well managed IT operation. DOC's targets for CPIC maturity were to have 80% of the operating units at level 3 (on a scale of 1 to 5) and 25% at level 4 by the end of FY 2005. Actual performance in FY 2005 was 86% of operating units at level 3 and 28% at level 4.

Strategy 2.2: Further improve the IT project management capabilities within all operating units.

Initiative: Maintain the high caliber of DOC project management capabilities by continuing to collaborate with the Office of Human Resources Management (OHRM) on a curriculum of project management training, and completing certification training for those project managers who need it. Ensure that DOC project managers place greater emphasis on efficient project management techniques, including Earned Value Analysis, Earned Value Management Systems, and project risk analysis.

Performance Measures:

2.2 Commerce maintains a set of project manager qualification guidelines that specify experience and training requirements for DOC project managers assigned to major IT investments. The Departmental OCIO has reviewed the resumes of all IT project managers within the Department and has validated that every DOC project manager assigned to a major IT investment meets both DOC and OMB certification and/or experience requirements.

Commerce has instituted a program of continuous improvement of the project management talent within the Department by providing formal training and professional certification of our project managers. As of the beginning of FY 2006, a total of 100 project managers have received training preparatory to professional certification, 12 have achieved Project Management Professional (PMP©) certification from the Project Management Institute, and an additional 14 have submitted applications for certification.

OCIO continues to collaborate with the Department's Office of Human Resources to define the curricular requirements for an on-going project management-training program offering a Master's Certificate in Project Management through the George Washington University (GWU). Currently 67 individuals are pursuing the GWU Masters Certificate.

Commerce has instituted a requirement that managers of all IT investments – both development projects and steady-state initiatives – provide OCIO with quarterly performance reports. Performance reports for development projects are in the form of Earned Value Management System (EVMS) variance reports and cost

and schedule performance indices, along with estimates to complete and estimates at completion. Since the inception of this reporting requirement, Commerce's portfolio of IT investments has demonstrated improved performance and is now well within OMB's suggested tolerance of +/- 10% for both cost and schedule baselines.

Goal 3 To ensure that Commerce's IT systems and information resources are provided adequate protection; that data and software confidentiality and integrity are maintained; that systems' availability is sufficiently high enough to support Commerce's mission; and that privacy of all personally identifiable and business identifiable information is properly maintained.

Strategy 3.1 Maintain a structured IT Security Program in accordance with the Federal Information Security Management Act (FISMA), the Office of Management and Budget's Circular A-130, and other governing regulations. Ensure that all operating units comply with all regulatory requirements and meet all FISMA reporting deadlines. Ensure that certification and accreditation (C&A) of all operational Commerce IT systems is maintained in a current state. Maintain an IT security program maturity of level 3 (on a scale of 1 to 5) or higher. Demonstrate the effectiveness of DOC's IT security program through the regular testing of contingency plans, and the regular conduct of system control self-assessments, including vulnerability testing, and execution of corrective Plans of Action and Milestones (POA&Ms).

Strategy 3.2 Maintain a structured critical infrastructure protection program (CIP) to ensure the continued viability of IT systems that support national essential functions. Demonstrate the effectiveness of DOC's CIP program through the regular testing of reconstitution and response plans, and the regular conduct of vulnerability assessments and tracking of corrective actions on POA&Ms.

Strategy 3.3 Maintain a comprehensive IT security training program that addresses training of new personnel, annual refresher training for existing personnel, and specialized role-based training for personnel with significant IT security roles and responsibilities.

Strategy 3.4 Ensure that all information, relating to both individuals and businesses, collected and maintained by the Department is accorded proper privacy safeguards as defined in the Privacy Act of 1974, and the E-Government Act of 2002.

Initiative: Commerce has continued its commitment to a vigorous IT Security Program. We intend to maintain our vigilance by institutionalizing the IT security policies, standards, and practices put in place in FY 2003. We have completed certification and accreditation of 98 percent of the operational systems in the Department's IT systems inventory, and we perform routine compliance reviews to ensure the accuracy of management information maintained relative to our IT systems. This compliance review program includes reviews of the security status of all IT programs operated within the Department, verification that required security documentation is in place and of sufficient quality, and validation that procedures are implemented, rather than merely maintained on paper. Further, the Department is enhancing its Critical Infrastructure Protection Program through a

thorough examination of the national-critical IT resources within the Department; is actively pursuing Personal Identify Verification in support of Homeland Security Presidential Directive 12, "Policy for a Common Identification Standard for Federal Employees and Contractors;" and is strengthening its Privacy Program through policy promulgation, Privacy Impact Assessments, and Web Privacy Policies.

Performance Measures:

3.1 Maintain comprehensive IT security program policies and implementation procedures that are reviewed annually and kept up-to-date and aligned with FISMA and National Institute of Standards and Technology (NIST) standards and guidance, and monitor Department-wide compliance with these requirements. In FY 2005, the Department updated its IT security Program Policy to align with NIST and OMB issuances, including transition to the NIST Special Publication (SP) 800-53 control framework, institutionalization of the Federal Information Processing Standard 199 security categorization criteria, as well as incorporation of NIST SP 800-37 requirements for C&A, incident response, and configuration management. Commerce's operating units invested considerable efforts in developing repeatable processes that lead to high quality C&A packages. To verify and validate progress, we retained the services of an independent contractor to assess the extent to which policy and guidance are implemented and to assess the adequacy of operating unit IT security programs. The FY 2005 reviews focused on the following four areas:

- We reviewed the quality of certification and accreditation packages for selected operational systems listed in the Department's IT system inventory. We inspected the quality of system C&A packages for 50 of the Department's national critical systems and mission critical systems – all 13 of the Department's national-critical systems and 37 of the Department's mission critical systems. This inspection concluded that all C&A packages inspected were complete but required improvement in the area of quality documentation, which will continue to be a priority in FY 2006.
- We reviewed the effective implementation and oversight of DOC IT security requirements for contractor operations (including IT security at contractor facilities and applicable requirements for in-house contractors). We inspected 100 IT contracts for inclusion of new IT security contract clauses to ensure IT security requirements are mandatory for Commerce contractors. This inspection found that Commerce Acquisition Manual IT security clauses, issued in November 2003, had been included in many of the contracts reviewed, but improvements were needed.
- We reviewed the adequacy of documented configuration management policies and procedures, and review the effectiveness of practices to implement and maintain secure configurations for IT systems.
- We conducted in-depth reviews of IT security programs at BEA, Census, and NOAA. These reviews considered recent work performed by the Office of the Inspector General where applicable and included follow-up

of FY 2004 DOC Inspector General IT security audit findings and recommendations at two operating units. The reviews by the Department confirmed that audit recommendations had been implemented at all operating units involved, and no new significant weaknesses were identified.

In FY 2006, the Department will continue to meet all FISMA reporting requirements by submitting its annual FISMA report, monitoring the status of operating unit POA&Ms, and providing quarterly status updates to the Office of Management and Budget (OMB).

We will continue to meet IT security performance goals set by OMB. In FY 2005, the Department achieved full certification and accreditation of 98 percent of operational IT systems, prepared contingency plans for 99% of the systems, and tested contingency plans for 94 percent of the systems. Additionally, Commerce has security control costs integrated into the life cycle of 100% of the systems, has tested and evaluated these security controls in 100% of the systems, and has trained 97% of its staff in IT security.

We will continue to maintain a high level of maturity for IT security programs within the Department. All Commerce's IT security programs are at a maturity level of at least 3. From FY 2004 to 2005, the number of the Department's IT security programs at a maturity level of 4 or higher improved from 36% to 64%.

3.2 We will continue to demonstrate that Commerce has fully identified all of its IT systems and that they have been properly categorized as to their support of national essential functions. In FY 2005, the Department enhanced its Critical Infrastructure Protection Program, which required an examination of the national-critical IT resources within the Department. The Department has assessed these resources to isolate those considered priority mission essential that support national essential functions. In coordination with the Office of Security, we conducted site and asset vulnerability assessments of these resources to ensure that system dependencies are identified, and we tested the ability to regain availability in event of an interruption. We will continue these assessments in FY 2006 to ensure continued viability of these functions.

3.3 We will continue to provide annual IT security refresher training to all personnel and maintain a program to train those with significant IT security roles and responsibilities. In FY 2005, the Department maintained its IT security training program, leveraging cost-effective capabilities available through the Office of Personnel Management's Government Online Learning Center. This provides for annual IT security refresher training for existing personnel and role-based training for those personnel with significant IT security roles and responsibilities. We will continue to provide this training in FY 2006.

3.4 Commerce has developed an IT Privacy Policy to ensure that identifiable information in our IT systems is effectively protected and secured. We have provided policy and guidance for operating units on the preparation of Web Privacy Policies, conducted Privacy Impact Assessments (PIAs), and posted privacy policies and PIAs on Commerce Web sites that are visited by the public.

Commerce and all of its operating units have established Platform for Privacy Preferences (P3P) capability and have published their privacy policies on each of their individual Internet home pages. These policies establish how we will handle information we learn about visitors to our Web sites. Our sites do not use "persistent cookies" or any persistent tracking technologies that can identify a specific visitor, or information about that visitor, over multiple visits. Some Commerce Web sites do use "session cookies" that identify the visitor for the duration of a browsing session. Session cookies are deleted from our Web servers when the user's session ends.

We conduct PIAs to ensure that we do not collect, process, or disseminate any identifiable information from or about members of the general public that is not needed or authorized. We also extend this same level of privacy protection to business entities.

Commerce is actively pursuing Personal Identify Verification in support of Homeland Security Presidential Directive 12, "Policy for a Common Identification Standard for Federal Employees and Contractors." The Department is in the initial concept phase and has established a task force to develop an implementation plan. The Department has taken a risk-based approach for a controlled, managed, phased migration to HSPD-12 requirements. This approach focuses first on establishing the personnel identity verification program and underlying processes. This will be followed by: acquisition of necessary infrastructure, including card stock, card management systems, card readers; and development of standard, reusable back-end interfaces to Commerce IT systems. Installation of the technical infrastructure components will be tested in accordance with the Commerce certification and accreditation process. Implementation will be deployed first for access to high-risk facilities and for authentication to non-national security core system components determined to be of a High security category (as determined by application of Federal Information Processing Standard 199 criteria). Commerce will prepare a Privacy Impact Assessment by September 30, 2005 to ensure full consideration of privacy concerns.

The Departmental CIO has been designated as Commerce's Senior Officer for Privacy, and works closely with both the Chief Privacy Officer and Privacy Act Officer to ensure that we continue to protect any and all personal and business information provided to us.

Goal 4 To leverage the Department's Enterprise Architecture in a continual process of improving our business processes, aligning resources with Commerce's top-level strategic goals, and identifying and supporting key IT management decisions.

Strategy 4.1 Ensure that Commerce IT management maintains a focus on improvement of mission performance and that identifying opportunities to take advantage of leading edge technology is part of that focus.

Strategy 4.2 Inculcate in the CITRB a focus on the use of new technology and ensure that management of the continuing introduction of new technology is a part of the CITRB review of new IT Initiatives.

Strategy 4.3 Encourage the reengineering of business processes so that the Department's day-to-day operations will be able to exploit the latest developments in IT to improve mission performance.

Strategy 4.4 Reduce redundancy in the Department's portfolio of IT resources. Combine capabilities, utilize already-existing resources, and ensure that available IT resources are documented and visible for all potential users.

Strategy 4.5 Utilize the DOC Enterprise Architecture and operating unit-specific architectures to identify and support key IT management decisions.

Initiative: Commerce uses the full suite of Federal Enterprise Architecture (FEA) Models to describe the business operations of the entire Department and to identify areas for collaboration both throughout the Department and across other federal agencies. Currency and relevancy of our architecture models can only be maintained if our IT planning process fully examines and aligns with those models. While compliance with the FEA models is an established criterion for CITRB approval of Commerce IT investment initiatives, the CITRB pre-review process requires that managers examine innovative approaches to meeting the Department's information needs and ensuring that our enterprise architecture remains current with emerging technology.

Performance Measures:

Commerce measures progress in the use of its Enterprise Architecture through the application of a Departmental EA Maturity Model and an assessment against the OMB EA Assessment Framework. Our maturity model goals for FY 2005 were to achieve a solid 3.0, i.e., "effective" as measured against OMB's EA Assessment Framework and, as measured by our Departmental Maturity Model, to have 80% of our operating units at a level 3 or higher, with selected operating units (25% or more) achieving level 4. Our operating units scored beyond these goals, with just over 86% at level 3 or higher and 28% at level 4 or higher.

The validity of our self-assessments has been corroborated by OMB's rating of 3, utilizing the same EA Assessment Framework.

4.1 USPTO is now imaging all pertinent documents to facilitate workflow and allow for vastly expanded telecommuting. This improvement of USPTO's mission performance is the result of the Patent eGov effort and is described more fully at page 45 of this Plan.

4.2 Census has adopted the innovative approach of using hand-held computing devices to reduce the cost of non-response follow-up in the 2010 decennial census (refer to page 46).

DOC operating units have been directed to recognize Internet Protocol Version 6 (IPv6) readiness/compatibility as a likely future need and, wherever possible, mandate IPv6 compliance for all new hardware and software purchases. This

mandate for IPv6 readiness/compatibility applies both to the acquisition of new technology and the upgrade of existing capabilities. The requirement for IPv6 capability is now a criterion for Commerce IT Review Board approval of all DOC Information Technology capital investments and is consistent with our identification of IPv6 as an emerging standard in the DOC Federated EA. Since IPv6 will become a core component of the Department's IT infrastructure, Commerce will use the Enterprise Architecture Assessment Framework to evaluate our IPv6 transition planning and progress.

4.3 The NOAA High Performance Computing initiative consolidates management of the resources of several organizations providing more capability without having to increase the number of supercomputers in use. NOAA has taken a corporate management and architectural approach that integrates like functions – research and development, and operations. Detailed information on NOAA's enterprise approach to its HPC architecture can be found at page 43 of this Plan.

DOC has taken the initial steps toward a Service Oriented Architecture (SOA) by deploying an Enterprise Application Interface to coordinate true stateful transactions between disparate systems. SOA is an architectural style whose goal is to achieve loose coupling among interacting software agents. This loose coupling allows the independent, yet related, deployment of discrete software components, each of which performs a specific task, and each of which has a fully documented and programmable Application Program Interface. By employing this technology, processes that are common to many business tasks can be performed by a single, integrated software package, greatly reducing system deployment costs and time. As we build more and more software systems, we see similar situations and patterns appearing, and pursuing an SOA approach will allow us to reuse the functionality of existing systems rather than building them from scratch.

4.4 NOAA has embarked on an effort to combine the dual processing environments of the Central Environmental Satellite Computer System (CEMCSC) and the Satellite Environmental Processing System (SATEPS) and to operate them as one Environmental Satellite Processing Center (ESPC). This combination of capabilities will improve NOAA's centralized IT planning, architecture, security, and continuity of operations capabilities. Tangible benefits of this consolidation will be a reduction in the numbers of computer operators and system administrators, and the elimination of the need for a second mainframe computer.

Commerce has reduced redundancy, combined capabilities, and is better utilizing existing resources through the use of our Consolidated Infrastructure Program. This program has four objectives: 1) to operate and maintain an evolving infrastructure that supports mission objectives, 2) to improve services provided so that our customers have timely, reliable, secure, innovative, and cost-effective access to Commerce information technology where and when they need it, 3) to enable all Commerce employees to fulfill their responsibilities efficiently and

effectively, and 4) to streamline and unify our IT infrastructure investments wherever possible.

The Department is reducing redundancies in the way it maintains information relative to our network-based entities such as applications, files, printers, and people, by implementing a Directory Services solution. Directory services will provide a consistent way to name, describe, locate, access, manage, and secure information about these resources. An enterprise approach to DOC's Directory Services solution will be an important step towards the consolidation of Departmental directories by offering standards-based interfaces allowing for interoperability and centralized directory management. This will allow us to reduce the number of locations in which information must be stored and entered, improve the accuracy of the information we maintain, and reduce the number of authentication credentials that must be maintained by our people.

4.5 The Census Bureau's 2010 Decennial Census Project is using the EA to guide decisions on what aspects can be outsourced, how the existing Census Bureau's components can be reused, and what new components can be developed for reuse in the future. Census has identified the use of handheld computers for field follow-up as a means of significantly reducing the overall cost of eliminating large amounts of paper that would have to be processed and the space needed to store and manage the documents. Cost avoidance is projected at $155 million.

The NOAA Comprehensive Large Array-data Stewardship System initiative was developed through the evaluation of the existing NOAA architecture and the requirements that several line offices had to increase storage capacity for data. By developing a centralized data storage resource, they are able to meet all storage needs at less overall cost as well as provide a major customer benefit by providing a single portal to retrieve any archived data.

The United States Patent and Trademark Office (USPTO) is using their EA to leverage e-government. USPTO is conducting a unified e-government study to analyze the business processes common to the patent processing and trademark processing. The study will present an enterprise strategy for targeting the appropriate consolidation of USPTO systems. USPTO is also designing a common approach to receiving patent and trademark applications either by mail or electronically using electronic file wrappers to identify documents and manage the workflow.

An analysis of the DOC architecture identified a number of systems used to process various federal grants. Using the EA, it was determined that multiple NOAA systems could be consolidated to one. This system plus the three remaining systems will be migrated to the grants lines of business consortia, when available. These consolidations provide cost avoidance through streamlined processing and standard procedures. This effort has also greatly simplified DOC's migration to the e-Grants front-end application system.

DOC has taken the initial steps toward a Service Oriented Architecture (SOA) by deploying an Enterprise Application Interface to coordinate true stateful transactions between disparate systems. SOA is an architectural style whose goal

is to achieve loose coupling among interacting software agents. This loose coupling allows the independent, yet related, deployment of discrete software components, each of which performs a specific task, and each of which has a fully documented and programmable Application Program Interface. By employing this technology, processes and tasks that are common to many business tasks can be performed by a single, integrated software package, greatly reducing system deployment costs and time. As we build more and more software systems, we see similar situations and patterns appearing, and pursuing an SOA approach will allow us to reuse the functionality of existing systems rather than building them from scratch.

Major IT Initiatives in the Department of Commerce

Commerce's Capital Planning and Investment Control process and Enterprise Architecture program require that any major IT investment demonstrate clear alignment with one or more of our Departmental strategic goals and that redundancy in IT investments be eliminated wherever possible. This disciplined approach to IT investments has allowed Commerce to fully align IT investment with our strategic objectives, eliminate redundant administrative systems, and develop Department-wide approaches to managing IT requirements. Major IT initiatives underway in Commerce include the following Departmental cross-cutting initiatives, major modernization efforts, and operating unit-specific initiatives. All of these initiatives support the President's Management Agenda e-government goal. Table 1 at the end of this section provides a graphical depiction of the applicability of each of these initiatives to one or more of the Department's strategic goals.

DEPARTMENTAL CROSS-CUTTING INITIATIVES

Commerce Business System (CBS)

The CBS, formally known as the Commerce Administrative Management System (CAMS), assists Commerce in complying with key financial management legislation such as the Office of Federal Financial Management (OFFM) and the Government Performance and Results Act (GPRA), and to ensure that Departmental and operating unit financial management is fundamentally sound to protect funds and assets against waste, fraud, and abuse and to provide more effective cost management. Pre-CBS financial systems neither complied with the relevant financial management legislation nor effectively managed Departmental assets.

In FY 1999 the Bureau of the Census became the first Departmental operating unit to adopt CBS as its system of records. The Office of the Secretary (OS), the Office of the Inspector General (OIG), and the Office of Computer Services (OCS) within OS followed in FY 2001, and in FY 2002 CBS saw further adoption with the Bureau of Economic Analysis (BEA), the Economic Development Administration (EDA), the Economics and Statistics Administration (ESA), and the Minority Business Development Administration. The National Oceanic and Atmospheric Administration (NOAA) and Bureau of Industry and Security (BIS) adopted CBS as their system of records in FY 2003, and in FY 2004 were followed by the National Institute of Standards and Technology (NIST), the Technology Administration (TA), and the National Telecommunications and Information Administration (NTIA). Through the use of CBS, the Department of Commerce has, over the past five fiscal years, been able to exhibit greater efficiency in the production of our financial reports and receive unqualified financial opinions.

The CBS project provides returns on investment in several areas including cost, quality, and overall financial management. CBS has improved the overall quality of financial data within Commerce and has increased the speed of preparation and use of financial data. The various data controls within CBS help ensure that only accurate and valid financial data can enter the system. CBS allows for data to be captured at the point of entry and the electronic routing of this data for review and approval.

The Congressional Financial Management Improvement Act requires all departments and agencies to use a financial management system that implements the US Standard General ledger

(SGL) accounts at the detail transaction level and to be in compliance with the financial standards set by the OFFM. The implementation of CBS has allowed Commerce to fully comply with this Act and has significantly improved financial management within the Department. Program managers are now able to execute queries/reports to get real-time financial management data about their projects to determine how they are doing and to view the specific expenditures and receivables associated with their project. CBS is able to automatically enforce funds control and Prompt Pay procedures and allowed Commerce to effectively address and correct several material weaknesses identified by auditors at various operating units.

Commerce utilized its Enterprise Architecture to identify the opportunity to utilize existing capabilities and avoid redundancy in the interface between the CBS feeder system and the Core Financial System. Further plans are to use commercial products or existing federal systems for the remaining functional CBS modules. The CBS project has a well-defined management structure and the CBS implementation strategy seeks to ensure maximum user involvement at each stage. The CBS Support Center has prepared a risk reduction and mitigation plan that exists in the form of IT Capital Investment Plan (Exhibit 300). Because of its considerable impact throughout the Department, the ongoing operation of CBS continues to be closely monitored by the CITRB.

The CBS project supports Commerce's Management Integration Goal, and the President's Management Agenda for Financial Performance.

Commerce Business Environment (CBE)

The CBE program was embraced by Commerce in 2004 as a key component of our revised acquisition management vision. As a part of our architectural design to reduce redundancies, streamline operations, and ensure consistent security, the CBE is an evolving approach to the integration of acquisition management systems. The bottom-line goals of the CBE are to assist Commerce's operating units' compliance with sound acquisition practices and to enhance customer service.

The CBE objectives for an automated acquisition environment are:

- Web-based "One-Stop-Shop": will provide a Web-based central point for all users, vendors, and contractors to communicate with DOC's acquisition stakeholders,
- One acquisition system to handle all end-to-end lifecycle activities: streamlines and standardizes business processes and all acquisition activities by utilizing a modernized, integrated system,
- Enhance opportunities for small businesses,
- Identify small business opportunities at early stages of the procurement process, thus implementing effective planning mechanisms for small businesses,
- Maintain vendor and past performance databases that identify outstanding small businesses and disseminate this information among program managers throughout the Department,
- Support an integrated policy, planning, and budgeting process,
- Generate reports on vendor socioeconomic data throughout the acquisition process, and

- Highlight high-risk vendors by providing past performance data, provide accountability. through workflow management processes, and enhance the amount of information available for critical analysis and problem solving by procurement professionals.

The CBE comprises a number of functional acquisition systems, including the following:

Commerce STandard Acquisition and Reporting System (CSTARS)

The Department's current acquisition system of record, CSTARS, is the DOC acquisition system for handling all end-to-end lifecycle activities. Initially approved in 1999, CSTARS is an enterprise-wide, IT-enabled tool, used by the Department's acquisition professionals to provide the highest level of customer service in acquiring products and services. CSTARS is one of several automated business solutions and tools within the CBE. Powered by a COTS software package, this system provides the functionality needed by the contract office staff and management to fulfill procurement requirements in an efficient manner. CSTARS is being interfaced with the Commerce Business Systems (CBS) Core Financial System (CFS) through an Enterprise Application Integration (EAI) product—TIBCO. The interface helps support clean financial audits and alignment within the DOC Enterprise Architecture lines of business and services.

CSTARS is in operation within the Department's acquisition offices in the Office of the Secretary (OS), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA) and the Bureau of the Census. The CSTARS Program supports e-commerce and e-government activities promoted by the President's Management Council, as well as the Department's Chief Information Officer and Chief Financial Officer.

Interactive Business Opportunities Page (iBOP)

The Office of Acquisition Management and Financial Assistance (OAMFA) iBOP server provides a Web-based interactive project board to keep vendors and contractors apprised of the COMMerce Information Technology Solutions – Next Generation (COMMITS-NG) Government-Wide Acquisition Contract (GWAC) activities. The COMMITS-NG program provides federal agencies with an efficient and effective means for awarding IT service and solution requirements, and assists the federal government with acquiring essential IT requirements utilizing high quality performance-focused contractors. The iBOP enables the OAMFA to communicate business opportunities within the COMMITS-NG GWAC business partners' community.

Balanced Scorecard System (BSC)

The BSC is used to measure the performance of the Department's acquisition community. The BSC extracts quantitative procurement data from the Enterprise Acquisition Reporting Systems using an automated process. The BSC also contains a survey tool to collect qualitative data regarding Commerce's acquisition activities. The qualitative and quantitative data are used to measure the accomplishments of the operating units within the acquisition community. The BSC includes several component sub-systems that share the same platform and application base and provide integrated data into the BSC.

Integrated Acquisition Environment (IAE)

The IAE project serves the President's Management Agenda as it relates to e-government. The emergence of the Internet as a platform for communication and the exchange of goods and services is transforming the way organizations interact with their business partners. The Commerce Business Environment is linked to the IAE through its use of government-wide initiatives such as the Business Partners Network/Central Contractor Registration (CCR), FPDS-NG, and the Electronic Subcontracting Reporting System. These new technologies are allowing the Department to greatly reduce costs and streamline business processes while improving customer service. The IAE builds on the framework of a shared services model where no single organization has "ownership"; rather the services are a constellation of capabilities built on standards and accessible over the Internet.

The availability of accurate, timely, and useful procurement information is critical to successfully fulfilling the Department's strategic mission. The intent of the CBE is linked directly with management's ability to make sound decisions and effectively utilize the resources at its disposal in doing so.

The CBE project supports Commerce's Management Integration Goal and the acquisition component of the President's Management Agenda goal of Expanded Electronic Government.

Office of Human Resources Management (OHRM) IT Systems

Automated Hiring Assessment Tool

In August 2004 DOC began using the QuickHire application from Monster Government Solutions as a tool to speed up the recruitment of applicants for vacant positions across the Department. This COTS product is being integrated with the Office of Personnel Management's Recruitment One-Stop (ROS) initiative.

OHRM has the continuing mandate to provide the highest quality candidates to all hiring managers within Commerce, and the Department must be able to readily and efficiently attract and hire the best applicants to meet our challenging missions. Proper job analysis, recruiting, candidate assessment, and effective communication are all key steps in the successful hiring process. Commerce selected QuickHire, for linking to the ROS, as part of its effort to exploit the opportunities available through the e-government initiatives outlined in the President's Management Agenda. This linkage requires full integration of job applicants' resumes, job announcement postings, and quality assessment questionnaires

Starting with the pilot in August 2004, the use of QuickHire was expanded throughout DOC until all HR offices were brought onboard in December 2004. The QuickHire product did experience some operational issues, due to heavy usage during Q2 of FY 2005, but these problems were resolved and usage continues to grow.

Monster Government Solutions continues to offer training and customer support to all HR offices within DOC. Additional classroom training is planned as new versions of QuickHire are released to DOC.

DOC maintains an active internal QuickHire user group that meets regularly to discuss enhancements and training issues. DOC also has representation on the Monster Government

Solutions steering committee. The portal to the DOC implementation of QuickHire can be found at the Automated Commerce Employment System Web site.

The OHRM Automated Hiring Assessment Tool project supports Commerce's Management Integration Goal and the President's Management Agenda goal of Strategic Use of Human Capital.

WebTA

In FY 2004, OHRM deployed, as a pilot project within the Office of the Secretary, WebTA, a Commercial Off-the-Shelf Time and Attendance processing system. WebTA is a Web-based time and attendance system that provides an interface with the National Finance Center and allows employees to input their own time and leave data and provides them with the ability to submit electronic leave requests and validate timecards online.

One of the drivers in the selection of a Web-based time and attendance system was the need to use a system that supported the roles and responsibilities of the main parties involved in timekeeping: the employee, timekeeper, and supervisor. WebTA has proven to successfully support each of these roles; employees can track their time by project and donate leave electronically through the Leave Transfer Program, timekeepers can accumulate payroll data by project and payroll category, and supervisors can approve leave requests and certify timecards online.

The WebTA project supports Commerce's Management Integration Goal and the President's Management Agenda goal of Strategic Use of Human Capital.

Herbert C. Hoover Building Infrastructure Network (HCHBNet)

In 1995, DOC commissioned a study of the telecommunications network environment in the Herbert C. Hoover Building (HCHB). This study found that there were approximately 100 individual networks serving the 4,000 users within the building. These heterogeneous, and in some instances, incompatible networks were the result of development and installation efforts conducted by autonomous operating units, working independently. As a result of the finding of this study, DOC began development of a telecommunications improvement plan, which, in FY 1998, resulted in a design recommendation for a consolidated network infrastructure for the HCHB. This design recommendation, which came to be named the HCHBNet, was vetted by all the operating units within the building, refined to meet a comprehensive set of telecommunications needs, and approved by DOC executive management in FY 1999.

HCHBNet was envisioned as a way to provide the Department with opportunities to achieve efficiencies and savings such as consolidation of help desks, security offices, and other IT support services. The new network infrastructure was designed to significantly lower the costs of technology refreshment previously experienced in an environment of independent networks within the HCHB. The new network infrastructure also provided the opportunity for greater efficiencies in adopting new technologies, including emerging products that would permit voice, data, and video to share a common, structured wiring infrastructure.

In FY 2000 DOC received approval and funding for the construction of HCHBNet, and construction commenced in May 2001. The basic backbone connectivity of HCHBNet was completed in December 2002 and migration to the new network, beginning with the Office of the Secretary, commenced immediately. Over the last year and a half, migration of various

operating units within the building has continued and additional organization-specific networks within the HCHB have been incorporated onto the HCHBNet.

During the time of the installation of the basic backbone of the HCHBNet, DOC management recognized the immense benefits of early-on integration of data, voice, and video onto the new HCHBNet infrastructure. Even before the migration of operating units to the HCHBNet, DOC began the incorporation of a new, state-of-the-art IP-based telephone system into the HCHBNet. Other innovations incorporated into the HCHBNet include an emergency broadcast system to alert HCHB occupants to developing emergency situations. The HCHBNet emergency broadcast system is the centerpiece of the HCHB emergency operations plan, providing notice of fire, hazardous material, and terrorist threat situations. The HCHBNet has also incorporated a public address capability and a closed circuit security camera system. The incorporation of Voice-Over-IP telephony, emergency broadcast capability, and closed circuit camera security system has already saved the American taxpayers many thousands of dollars because these functions were incorporated using the existing cable infrastructure provided by HCHBNet, eliminating the need for expensive and duplicative separate wiring systems.

HCHBNet has an enormous bandwidth capability and is readily scalable to fit the Department's expanding needs for increased communications capacity. Of critical importance to retention of benefits realized to date, HCHBNet was designed to survive both the planned near-term major renovation of the Herbert C. Hoover Building, as well as building renovations, reconfigurations, and upgrades unforeseen at this time. DOC's strategic goal is to extend use of the HCHBNet to include all operating units located within the Herbert C. Hoover Building.

The HCHBNet project supports Commerce's Management Integration Goal.

MAJOR MODERNIZATION EFFORTS HIGHLIGHTED

Bureau of the Census

21st Century Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Enhancements

The 21st Century MAF/TIGER Enhancement program will be a major improvement to the quality and accuracy of the Census Bureau's digital geographic data, which is used by census takers throughout the U.S. as well as other state, local, and tribal government entities and numerous academic institutions throughout the U.S. The MAF/TIGER Enhancement program is an example of the Department's strategic thrust to redesign its business processes through the application of leading-edge digital technologies. Planning for the 21st Century MAF/TIGER adheres to Commerce's architecture and security guidelines, including those relating to accessibility (Section 508) and the E-Gov Act. The plan is supported by a comprehensive cost-benefit analysis and well-documented project management cost, schedule, and performance measurement baselines

The current Master Address File (MAF) is a complete and current list of all addresses and locations where people live or work, covering an estimated 115 million residences, as well as 60 million businesses and other structures in the U.S. The Topologically Integrated Geographic Encoding and Referencing (TIGER) portion of the project is a digital database that identifies the type, location, and name of streets, rivers, railroads, and other geographic features, and

geospatially defines their relationships to each other, to the MAF addresses, and to numerous other entities. The Census Bureau's Geography Division maintains the two databases internally in the Department. Improvements to MAF/TIGER will allow the Census Bureau's data collection operations to adopt an integrated collection and update methodology for address lists and geographic data required for the 2010 Census, the American Community Survey (ACS), and household surveys. Additionally, the MAF/TIGER Enhancement program will allow for two-way sharing of high-quality address and geographic data with state, local, and tribal governments as well as academic institutions throughout the U.S., and will allow the Census Bureau to provide the highest possible quality in the geographic products and services provided to its many statistical-data customers.

A modern processing environment allows the Census Bureau to use commercial-off-the-shelf (COTS) products and Geographic Information Systems (GIS) tools to make significant performance improvements in existing processing systems.

In FY 2003 Census began to implement geographic partnership programs by developing Web-based and interactive geographic updating systems and completed the MAF/TIGER map feature. From 2003 through 2005, Census updated housing unit locations in 1,550 counties.

MAF/TIGER performance goals for future years include:

- FY 2006: Transfer all MAF/TIGER data into a new database and discontinue use of the current "homegrown" database, update the applications software, and update 700 counties nationwide.
- FY 2007: Update 600 counties nationwide.
- FY 2008: Update 250 counties nationwide.

The MAF/TIGER Enhancement program supports Commerce's Strategic Goal # 1.

National Oceanic and Atmospheric Administration

NOAA High Performance Computing (HPC) Planned Improvements

NOAA currently operates and manages HPC resources associated with three separate organizations: the Geophysical Fluid Dynamics Laboratory (GFDL) located in Princeton, N.J., the Forecast Systems Laboratory (FSL) located in Boulder, CO., and the National Centers for Environmental Predictions (NCEP) located in Camp Springs, MD. GFDL produces timely and reliable knowledge and assessments on natural climate variability and anthropogenic changes in the development of various earth system models. FSL conducts applied meteorological research and development to improve observing technology and create short-term weather forecast and warning systems. NCEP develops models and delivers national and global analyses, guidance, forecasts, and warnings of weather, water, and climate phenomena to its partners and external user communities. Historically, the three organizations have independently procured, operated, and managed their HPC resources in a stove-piped manner.

Starting in the fall of 2003 several catalysts for changing the HPC program arose and were addressed by the NOAA HPC community. These included a change in the overall NOAA culture, leading all offices and programs to take a "corporate view," encouragement from the Department to approach HPC differently, growing requirements and tight budgets, recognition of lost opportunities to collectively use HPC resources to realize NOAA's objectives, and a need to accelerate the transition of programs from research to operations.

In order to implement the needed changes to the HPC program the following four strategic objectives were adopted.

1. Develop a NOAA-wide approach for managing HPC requirements. - NOAA's agency-wide planning, programming, budgeting, and execution (PPBES) is used to develop, prioritize, and fund mission requirements. Mission requirements will drive technical requirements. Technical requirements are assessed and solutions developed by the new HPC integrated management approach.

2. Migrate from an organization-based HPC architecture to a function-based architecture. – NOAA has three core functional requirements: operations (which includes backup), operational development (includes operational test bed for pre-operational software engineering), and applied research & development (R&D) (includes development test bed to test code against standards, e.g., interoperability). These three requirements drive two architectures, one for operations, operational development and backup, and the other for applied R&D.

3. Base acquisitions on functional needs rather than organizational needs. – The acquisitions will be based on the architectures: one Request For Proposal (RFP) for NOAA applied R&D and another RFP for operations. The R&D acquisition will include both the National Weather Service and Office of Oceanic and Atmospheric Research, will provide for a potential phased delivery, and will include an option to support operations. The acquisition for operations will include the full suite of operational requirements, including backup, and an operational test bed. It will also include an option to support applied R&D.

4. Implement an integrated approach for managing the HPC program. – Management of the HPC program will be integrated into the NOAA Office of the Chief Information Officer and will be supported by a NOAA-wide HPC Board. Integrated management includes planning, establishing, and overseeing implementation of HPC principles and policies, architecture, acquisitions, and performance measures. This approach is consistent with NOAA business and program models and federal government high-end computing best practices. The HPC program receives its funding from the Environmental Modeling Program (EMP). The EMP delivers trusted, timely, and accurate environmental assessments and predictions through next-generation models that are:

- *Integrated* – based on a "whole-earth" system and a broad range of applications
- *Interoperable* – linked through architecture, and across multiple, geographically distributed HPC Centers
- *Mission Driven* – support all NOAA service areas
- *Accessible* – supported and available to the entire community and providing an ability to link the nation's science advances to NOAA's mission

The HPC program supports the following NOAA mission outcomes:

- Weather and Water Outcome: Enhance weather and water prediction through interdisciplinary modeling, and an ability to expand the scope of predictions (e.g., air quality, harmful algal bloom, and on-demand hazards runs).
- Climate Outcome: Improved seasonal to interannual diagnosis and prediction; additional Intergovernmental Panel on Climate Change (IPCC) scenario runs.

- Ecosystem Outcomes: New R&D architecture will make extensibility to Coastal and Ocean ecosystem modeling feasible.

Commerce and Transportation: Extremely high-resolution weather models are key to improved aviation and marine weather. Some of the benefits that NOAA will realize as a direct result of these changes in the HPC program include:

- more effective and efficient use of HPC resources
- streamlined acquisitions
- strategic decision making
- faster transition of research to operations.

This approach seeks to address three primary categories of risk: acquisition, culture change, and technical. Issuing two RFPs will mitigate acquisition risk by reducing the probability of schedule slippage resulting from delays in the acquisition process. Culture change risk will be managed by using the PPBES process, the HPC Board, frequent and open communications, employing an iterative change approach, and assessing the benefits of developing a consolidated HPC OMB Exhibit 300 business case by FY 2007. Technical risk will be mitigated through the use of a spiral advance methodology that calls for making iterative improvements over time.

The improvements in NOAA's HPC environment support Commerce's Strategic Goal # 3 and the Management Integration Goal.

United States Patent and Trademark Office

Patent e-Gov

The United States Patent and Trademark Office (USPTO) initiated the Patent e-Gov to enable the USPTO to migrate to a more efficient operating environment that supports the business goal of providing quality services and products in a timely manner to customers and stakeholders. Implementing the Patent e-Gov project allows USPTO to achieve and go well beyond its 21st Century Strategic Plan objective.

The increased use of automation contributes directly to Commerce's Strategic Goal number 2: "Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science." Patent e-Gov supports the expansion of electronic government by promoting the sharing of information more quickly and conveniently with the public, businesses, and other intellectual property offices. In addition, Patent e-Gov supports the strategic goal of a citizen-centric electronic government by creating a fully electronic patent process that not only reduces costs, but also helps the USPTO to meet the high public demand for patent information and allows more efficient communication with the public and other USPTO customers worldwide.

The USPTO Office of the Chief Information Officer (OCIO) has begun to implement an end-to-end electronic pipeline for the processing of patent applications that will eliminate inefficient paper-based processes and is consistent with their e-processing strategy and 21st Century Strategic Plan. The Patent business unit, in coordination with the OCIO, has developed a phased implementation plan that will provide a base document management and work routing system to manage patent application documents electronically. This plan ensures an operational pipeline to capture and process patent applications electronically to improve the integration and workflow of

patent processing applications. The integration efforts of systems enhance key features, including formulation of reports, information transferring, scanning of documents and images, and technical support for the systems. Equally important are the workflow tools that leverage the electronic file wrapper, facilitate daily workflow tracking of patent applications, and provide patent application status reporting.

Patent e-Gov provides relief from the time, space, accessibility, and quality problems associated with the use and updating of a paper-based patent application examination system. Patent e-Gov enables Patent Business customers to create, and USPTO internal users to process, electronic patent applications and follow-on papers more easily and accurately; reduces time required for processing and responding to customers; automates routine patent formalities tasks so that patent examiners can focus on the intellectual aspects of examination; and continuously improves quality throughout the processes. By implementing Patent e-Gov, the USPTO is able to reduce contractor costs, eliminate lost paper files, improve workflow tracking, and automate many support functions to yield a higher quality product. In a fully electronic environment, customers are able to communicate electronically with USPTO 24 hours a day and are empowered to perform application update functions themselves, resulting in a much more citizen-centric patent process.

OTHER OPERATING UNIT SPECIFIC INITIATIVES

Bureau of the Census

2010 Decennial Census

Though early in the decade, planning and preparatory activities for a reengineered 2010 Census are now in their fourth year and well underway. In the 2000 Census, Commerce leveraged technology to automate many of the processes that were formerly done through labor-intensive means. The Census Bureau will continue to exploit the use of advanced technology to support process improvements in the 2010 Census. Specific attention will be focused on the use of mobile computing devices, offering a major opportunity to develop more efficient data collection/capture processes for the 2010 Census, thus offerings cost savings now estimated at over $1 billion. The first major test of this technology was conducted in FY 2004 and the results of that test have provided further data supporting our estimated cost savings.

Goal 3 in the Census Strategic Plan states that the Bureau will re-engineer the 2010 Decennial Census to be more efficient and cost effective, provide richer data, improve coverage, and reduce risk in meeting constitutional and legislative mandates. This re-engineering project will allow Census to establish a framework for defining processes, systems, and technologies with a logical architecture, seamless interfaces, and flexibility for new technology insertion. The approach Census has taken to achieving this re-engineering feat comprises two major components, Field Data Collection Automation and the Decennial Response Integration System.

Field Data Collection Automation (FDCA)

FDCA is a cornerstone of Census' reengineering of the decennial census process. Through the FDCA project, Census will equip half a million temporary field workers with GPS-capable mobile computing devices (MCDs). These MCDs will be used to assist in the tasks of address canvassing, non-response follow-up and census coverage measurement (person interviews), and

the temporary field workers, working out of 500 temporary local census offices, will validate more than 60 million addresses and field assignments. FDCA will dramatically reduce the costs of staff and office space previously required to compile census-takers' reports using traditional paper-based methods.

Acquisition and deployment of MCDs and data collection software will allow Census' temporary field workers to navigate to their assignments, update address lists and maps, capture data from interviews, collect global positioning system coordinates for living quarters, and report time and expenses for payroll. Field workers will also use their MCDs to transmit the data they have collected directly into a data capture system. During non-response follow-up and census personal interviews, the MCDs will enable field workers to receive updated daily assignments. The MCDs will also enable Census headquarters to track progress and produce management reports.

FDCA will also provide Regional Census Centers and Local Census Offices with back office IT support, including: Internet access, Virtual Private Network connectivity, help desk services, and IT security. IT security for FDCA will include the personnel and automated systems necessary for ensuring compliance with all security requirements associated with the storage and transmission of data across platforms in the field.

Decennial Response Integration System (DRIS)

The overarching goal of the DRIS is to serve as a complete solution to the needs of respondents and Census personnel – both office staff and field workers – in all activities required for data capture, processing, and retention in connection with the 2010 Census. DRIS activities include those necessary to provide the systems and services for recruiting office and field staff; the deployment, operation, maintenance, and eventual disposal of most of the systems, infrastructure, and facilities required for public interaction with the 2010 Decennial Census process; and the means to standardize and organize response data from the MCDs used by Census field workers. DRIS will capture production metadata related to all operational modes to allow Census to independently determine the productivity and progress of each self-response mode and adjust operating plans based on test results.

DRIS will also provide direct service to the public by enabling individuals to obtain assistance with 2010 Census questions; request an English or foreign language census form or a language guide; and respond to the 2008 Dress Rehearsal and the 2010 Census via paper, telephone agent, or the Internet.

Because the Decennial Census is of such importance in achieving Commerce's Strategic Goal #1, the Department considers it to be a special management concern and monitors the project closely.

Data Access and Dissemination System (DADS)

In 1997, the Bureau of the Census began creating the Data Access and Dissemination System (DADS), composed of the internal and external American FactFinder (AFF) systems, the Data Product Production (DPP) systems, and a "data mining" capability against detailed data files (Advanced Query System (AQS)). These systems were jointly designed to create, produce, and disseminate Census 2000 and other Census Bureau data and products. AQS is a generalized information system that makes Census statistical data more accessible to the public and easier to use by both Census Bureau data specialists and external users. Reporting is simplified, reducing

wait times and easing data customer burdens to answer questions concerning their data. AQS allows the free form querying of Census 2000 detailed data sets, with complex queries, table formats, and contents determined by the user, constrained by disclosure filters.

The DADS Program exists simultaneously under a development and implementation paradigm. DADS will continue to be heavily employed for the creation and dissemination of Census data products well beyond calendar year 2010, as additional Census data products are made available and to support the 2010 Decennial Census, the Decennial Dress Rehearsal, the American Community Survey, and the 2007 Economic Census.

The DADS application supports Commerce Mission Goal #1.

National Oceanic and Atmospheric Administration

Advanced Weather Interactive Processing System (AWIPS)

AWIPS is a technologically advanced information processing, display, and telecommunications system that is the cornerstone of the National Weather Service modernization effort. AWIPS is an interactive computer system that integrates all meteorological and hydrological data, with satellite and radar data, and enables the forecaster to prepare and issue more accurate and timely forecasts and warnings.

AWIPS consists of an integrated suite of automated data-processing equipment deployed to field offices and National Centers to support complex analysis, interactive processing, display of hydro-meteorological data, and the rapid dissemination of warnings and forecasts in a highly reliable manner. A Wide-Area-Network connects sites for multi point-to-point and point-to-point communications. NOAAPORT provides the communications capability, via a satellite broadcast network (SBN), to afford internal and external users open access to much of NOAA's centrally collected real-time environmental data.

NOAA is in the process of implementing an upgrade of the AWIPS network control facility, focusing on the replacement of outdated HP-UX D-class servers with PC-based Linux servers providing network router enhancements and Local Area Network improvements. The benefits of this server replacement effort include better throughput and performance of the SBN, increased server availability, and lower cost of migration to future generations of hardware.

AWIPS was at one time a special management concern, but is now functioning smoothly in a steady state.

The AWIPS application supports Commerce's Strategic Goal #3.

Next Generation Weather Radar Product Improvement (NEXRAD PI)

NOAA's National Weather Service (NWS) provides the nation with meteorological and hydrological services that are as complete, accurate, and timely as possible within existing scientific, technological, operational**,** and economic constraints. These services include data collection, data analysis, forecasting, and information dissemination. One of the most important elements of this overall mission is the NWS responsibility for public warnings and forecasts. The goal of this service is to provide the public with timely and accurate meteorological, hydrological, and oceanographic information for public safety and planning purposes and to ensure economic vitality.

The NEXRAD system is one of NWS' prime observation systems for acquiring data and providing weather warning and forecast information about tornadoes, severe thunderstorms, and flash floods. NEXRAD PI is a tri-agency initiative involving Commerce's NWS, the Department of Defense's (DOD) Air Force Weather Agency and the Department of Transportation's Federal Aviation Administration (FAA). This initiative aims to: (1) improve NWS tornado, large hail and flash flood warnings; (2) provide for cost effective long-term maintenance of WSR-88D weather radar units, and (3) provide cost effective recurring technological improvements in order to postpone indefinitely the need to completely replace the WSR-88Ds. The Open System Architecture project, currently underway replaces the obsolete, 12-year-old computer and signal processing equipment in the WSR-88Ds with COTS hardware and standards-based open system compliant software. The existing WSR-88D equipment is growing increasingly expensive to maintain, and is unable to meet the processing demands of new scientific algorithms that improve the forecaster's ability to use radar data to identify tornadoes and other severe weather. The NEXRAD Product Improvement Open System Architecture and Dual Polarization projects will: enable the use of new algorithms and implement new radar engineering technology to increase the update rate of radar data acquisition; to acquire higher resolution data; to mitigate the range/velocity ambiguity problems; to remove non-weather clutter from data; and to acquire data to distinguish among rain, snow, and hail.

The NEXRAD PI program was established to plan and implement continued improvement of the NEXRAD system. The program goals are to: 1) improve reliability and maintainability to meet the strategic goal of advancing short-term warnings and forecast services for the general public, 2) meet FAA requirements for additional and higher quality products, and 3) meet DOD requirements for a radar user interface interoperable between NEXRAD and other Doppler weather radar systems.

In addition, NEXRAD PI meets the NWS Vision 2005 Strategic Plan Goals, 1.1, Expand and Improve the existing weather, water, and climate product and service line: Increase the accuracy and timeliness of NWS warnings; 1.2, Produce a seamless suite of products and services linking weather, water, and climate with an emphasis on emerging climate products, and 2.2, Reduce the time required to implement proven research and technology into operations.

The NEXRAD PI initiative includes a phased strategy for replacing three major components of the existing NEXRAD system with open system designs:

- The Radar Product Generation (RPG) component, the engine that creates weather information (forecaster products) from basic radar data, was replaced by deployment of the OpenRPG (ORPG) in FY 2002. This deployment allowed direct LAN–to-LAN connection between the ORPG and AWIPS, thus increasing data resolution from 16 levels of data to 256 levels of data. With the implementation of new software builds in FY 2003, the ORPG will provide improved severe weather algorithms for snowfall and damaging downburst, improved radar scan resolution, and use of data from FAA radars.
- The Radar Data Acquisition (RDA) component of NEXRAD controls radar operations and generates basic radar data estimates of precipitation strength and storm winds. The replacement for the RDA, the OpenRDA (ORDA) component, will be deployed beginning in late FY 2004 and will provide reflectivity data resolution down to ¼ km as opposed to the current 1 km, data sampling at every ½ degree versus the current 1 degree, and will significantly improve velocity product processing.

- Advanced polarization techniques for NEXRAD will follow the ORDA replacement phase. This phase, known as the Dual Polarization implementation, is expected to be fully deployed in FY 2010 and will provide improved precipitation identification and estimates.

Full deployment of the NEXRAD PI will provide significant improvements to the National Weather Service's capability for producing tornado and severe weather warnings with greater accuracy, fewer false alarms, and with 50% greater lead times.

The NEXRAD PI application supports Commerce Mission Goal # 3.

National Weather Service Telecommunications Gateway Replacement (NWSTG)

The National Weather Service Telecommunications Gateway (NWSTG) is the primary data communications switching system of the NWS. It is a global distributor of weather messages in support of the NWS commitment to the World Meteorological Organization's (WMO) worldwide data exchange structure and is a Regional Telecommunications Hub (RTH) of the WMO Global Telecommunication System communication network.

The NWS Telecommunications Gateway provides national and global near real-time data exchange services and is operated twenty four hours a day to acquire data; process observations; construct messages; and disseminate messages and files of observations, model analysis, and forecast products. Dependability and maintainability of the Gateway are crucial to maintaining a timely and reliable transmission of products of the highest importance to stakeholders worldwide.

In fiscal year 2002, NOAA initiated an effort to replace the NWSTG, incorporating both a technology refreshment component and the development of redundant operational capabilities. This effort, which continues today, was undertaken by a combined contractor/NWS Integrated Project Team. The NWSTG investment initiative has been restructured to address three NWSTG components:

- NWSTG legacy operations,
- Development of the replacement gateway, and
- Development of redundant capability

Management of these three project components is being accomplished as a single investment with a single capital asset plan and business case, to help ensure that all strategic goals addressed by this project are achieved. Specifically:

<u>NWSTG legacy operations at Silver Spring, MD</u>

The National Weather Service is the federal agent charged with monitoring the atmosphere, including ocean and coastal waters, and providing assessment and prediction services to a wide variety of clients and customers. The NWSTG allows the NWS and its partners – public, private, and commercial – to perform their core functions. The NWSTG supports the NWS mission by collecting and distributing raw and processed hydro-meteorological data and products. The NWS Telecommunication Operations Center (TOC) operates and maintains the NWSTG and will ensure continuity of NWSTG services while the NWSTG upgrade program is in progress.

NWSTG Legacy Replacement at Silver Spring, MD

The NWS modernization programs were executed to deliver more accurate, longer-range products, more quickly. Replacement efforts for the core message switching components of the NWSTG are needed to meet the growing requirements of throughput demand. Transit times for watches and warnings through the gateway are required to be less than 10 seconds. Currently these messages take anywhere from 30 seconds to well over 10 minutes with the majority of messages taking around one and a half minutes. Other transmissions have similar performance gaps. Message delays from the NWSTG to the Network Control Facility can regularly be up to 30 minutes where the tolerance for delays is 4 minutes. This investment will replace the NWSTG mainframe-based core message switch with current server based technology and establish a technology refresh program to ensure that the technology deployed in the gateway keeps up with demand and avoids another full system replacement. The facility legacy systems replacements will permit continued highly reliable NWSTG operation by implementing systems that can be maintained under the current maintenance contract and will provide additional capabilities such as redundant electrical power systems for the expanding server farms and dual Uninterruptible Power Systems;

NWSTG Critical Infrastructure Protection (CIP) backup

The CIP backup initiative establishes a catastrophic backup for the telecommunications gateway. NWS, in partnership with the Federal Emergency Management Agency (FEMA), has constructed a CIP facility at a FEMA site that will house a backup computer system functionally equivalent to the NWSTG system housed at NOAA Headquarters in Silver Spring. This backup protection will ensure the continuity of vital NWSTG services. The building was completed in November 2004 and the CIP backup system is expected to be operational in FY 2006

The National Weather Service Telecommunications Gateway supports Commerce Mission Goal # 3.

Geostationary Operational Environmental Satellites (GOES) and Polar-orbiting Operational Environmental Satellites (POES)

NOAA GOES provides hemispheric and local coverage for measuring meteorological data used in predicting, monitoring, and observing weather trends. GOES satellites provide real-time weather data used to develop short-term weather forecasts. Data from the GOES satellites, combined with data from Doppler Radars and Automated Surface Observing Systems, greatly aid weather forecasters in providing better warnings for hurricanes, tornadoes, thunderstorms, winter storms, flash floods, and other severe weather. These warnings help to save lives, preserve property, and benefit commercial interests.

Launches are scheduled to replace aging satellites in order to maintain two operational GOES satellites in orbit at all times – one each at an eastern and western continental U.S. longitude. Depending on launch facility availability and economic factors, additional satellites may be launched into orbit at certain times and placed in standby or storage mode, ready to replace an impaired or failed operational satellite. The first GOES N series satellite was launched in 2003 and planning in support of further GOES satellite series continues.

NOAA also maintains the Polar-orbiting Operational Environmental Satellites (POES). These satellites provide about 90% of the data used in the National Weather Service's numerical weather forecasting model and are becoming an important source of climate data.

Both the GOES and POES systems depend on ground-based information technology systems to command and control the operations of the satellites and acquire their remotely sensed data. The ground systems also support the launch, activation, and evaluation of new satellites and continual in-depth monitoring of satellite functions.

The GOES and POES applications support Commerce's Strategic Goal #3.

National Polar-orbiting Operational Environmental Satellite System (NPOESS)

On May 6, 1994, Presidential Decision Directive NSTC-2 was signed to merge the nation's civil and military polar-orbiting operational meteorological satellite systems into a single national entity capable of satisfying both civil and national security requirements for space-based remotely sensed environmental data. Convergence of these programs is the most significant change in U.S. operational remote sensing since the launch of the first weather satellite in April 1960, and marks a significant departure from the eight previous attempts over the last 20 years to combine these separate programs. For the first time, the U.S. government is taking an integrated approach to identify and meet the operational satellite needs of both the civil and national security communities. NOAA and DoD each provide 50% of the funding for NPOESS while NASA contributes risk reduction activities.

NPOESS is used to monitor global environmental conditions, and collect and disseminate data related to weather, atmosphere, oceans, land and near-space environment. In 1994, it was recognized that converging the existing polar systems from the Department of Commerce (DOC) and Department of Defense (DoD) would result in a more cost effective and higher performance integrated system. As a result, in May 1994, a convergence plan was submitted to the U.S. Congress stating that NPOESS could reduce the cost of acquiring and operating polar-orbiting environmental satellite systems, while continuing to satisfy U.S. operational requirements for data from these systems. The President endorsed this initiative, signing Presidential Decision Directive NSTC-2. The NPOESS program is managed by the tri-agency Integrated Program Office (IPO), employing personnel from the DOC, DoD and the National Aeronautics and Space Administration (NASA).

The NPOESS application supports Commerce Mission Goal # 3.

Comprehensive Large Array Data Stewardship System (CLASS)

NOAA is responsible for archival storage and management of environmental data and information. NOAA has hundreds of millions of environmental observations stored on a variety of media dating back as far as the mid-1800s. These data support the nation's ability to ensure human safety and welfare, sustain economic stability and growth, and maintain environmental integrity. Much of these data and information are recorded on paper, film, and digital media.

Access to the environmental records is limited, and as the storage media deteriorates with age, the records are in danger of being lost. These data are of great value to researchers in government, academia, and private industry, as well as to the general public. CLASS provides a means to preserve valuable meteorological, climatological, geophysical, and oceanographic records and to make this data accessible to, and usable by, a wide variety of researchers in both the public and private sectors.

CLASS conducts many environmental data rescue activities to preserve historical data before they are lost or become unrecoverable, thereby preserving these data to assist in finding solutions

to today's problems. Many archived data sets that were in danger of being lost due to aging storage media were rescued through migration to modern digital media.

The CLASS application supports Commerce's Strategic Goal #3.

NOAA Grants Online

Grants and cooperative agreements play an important role in accomplishing NOAA's mission. Until recently there were 14 separate grants processing systems – ranging from manual to various levels of automation – supporting different portions of the NOAA grant process. Each of these systems could be characterized as paper-based and heavily dependent on frequent re-keying of information.

Through a combined effort of re-engineering and the use of information technology, NOAA developed and deployed NOAA Grants Online in FY 2003. This effort focused on business processes associated with soliciting and receiving grant applications through the government-wide grants.gov initiative. Through its Grants Online project, NOAA has reduced the number of labor hours required to receive and process grants from over 17 hours per grant to approximately 2 ¼, and the total time required to process and award a grant has been reduced by over a month.

In FY 2003 NOAA awarded over 1500 grants with a total value of $854 million. Based on the number of grants awarded in FY 2003, Grants Online will enable NOAA to redirect over 2,000 FTE labor days to the technical review of grant applications. NOAA was the first federal agency to receive applications through the grants.gov e-government application front end, and NOAA Grants Online was recently selected as an Excellence.gov Finalist.

NOAA Grants Online supports Commerce's Management Integration Goal and Strategic Goal # 3.

National Institute of Standards and Technology (NIST)

Time Scale and Time Dissemination

The Time Scale and Time Dissemination System provides the Nation's official standards for time and frequency to meet critical industrial needs, including time stamping of electronic financial transactions, telecommunications, electric power transmission, transportation, navigation and positioning (including support of the Global Positioning System), and various defense applications. Time dissemination methods are developed using Internet and radio broadcasting for industrial, consumer, government, and scientific applications, which serve millions of customers daily.

This application supports Commerce's Strategic Goal #2.

International Trade Administration (ITA)

International Trade Process Streamlining (ITPS)

ITPS is a comprehensive multi-agency initiative whose goal is to increase the number of small U.S. business exporters and the dollar value of export transactions. ITPS seeks to accomplish this goal by improving access to government export programs and reducing the barriers that small and medium-sized enterprises (SMEs) encounter when seeking help to export their products or services. Commerce, as chair of the Trade Promotion Coordinating Committee (TPCC), coordinates this effort with input from key partners including the US Department of Agriculture, the Export-Import Bank of the United States, the Small Business Administration.

Other TPCC agencies, including Trade Development Agency, the State Department, and the Overseas Private Investment Corporation, are also important players.

Regarding the potential impact for ITPS, U.S. companies with fewer than 20 employees accounted for nearly $32 billion in export sales over the last decade and need our assistance. Despite this encouraging statistic, only 2 percent of small and medium-sized enterprises (SMEs) export, and of those that do, 63 percent export to only one foreign market. These non- or under-exporting SMEs represent an immense, untapped source of future U.S. employment and prosperity.

Numerous surveys have revealed that a critical barrier for small exporters is a lack of information about the export process and limited resources for obtaining the information and documents necessary to conduct business abroad. Although the federal government provides a wealth of market research, programs, and counseling to assist SMEs in all aspects of the export process, this assistance is spread across 19 separate agencies and dozens of Web sites.

The International Trade Process Streamlining initiative was created to make it easier for SMEs to obtain the information and documents needed to conduct business abroad. Export.gov, the government's online portal for small business export assistance information has been enhanced to fill this gap.

Specifically, the initiative has:

- Consolidated and integrated the export process online under Export.gov, which includes foreign partner matching/verification, export financing and insurance, and consolidated market research
- Developed online applications for export financing, insurance, and loan guarantees offered through the Export-Import Bank and the Foreign Agriculture Service's Credit Guarantee System
- Introduced "One-Stop, One Form," which has reduced the time required for SMEs to fill out export-related forms and paperwork by providing a single on-line form for many export transactions

International Trade Process Streamlining has created a seamless environment for SMEs to research markets, gather trade leads, and conduct a majority of their export transactions on-line. Moreover, it now provides more timely and accurate export information and results in cost savings for U.S. businesses by reducing the amount of time they spend trying to get information and filling out applications and forms.

As a result of building and marketing Export.gov, over 10,000 new companies are now registered with Export.gov. Our domestic network of trade specialists are contacting these companies from across the country and helping them enter the export business. Export.gov continues to receive a customer satisfaction rating of over 80 percent and has seen the number of visitors increase by over 600 percent.

ITPS supports Commerce's strategic goal # 1 and the President's Management Agenda e-government goal.

National Telecommunications and Information Administration (NTIA)

Spectrum Management

In support of the President's Spectrum Reform Initiative, NTIA is currently using Enterprise Architecture to leverage their Paperless Spectrum Management, redesigning the systems that support this critical business function. In developing their Target Enterprise Architecture, NTIA has identified areas where interoperability of systems, particularly with the Federal Communications Commission, is critical to the success of the effort. NTIA has also implemented a Web Services Oriented Architecture to facilitate cross-agency integration.

NTIS's Spectrum Management project provides the information technology support required for NTIA to manage the federal government's use of the Radio Frequency spectrum. NTIA processes between 6,000 and 10,000 frequency assignment actions monthly. To preclude harmful interference between stations, these actions (applications from federal agencies for new frequency assignments or revisions of existing assignments) must be coordinated with other federal agencies, and in many cases with the Federal Communications Commission and the Government of Canada. NTIA processes frequency assignment actions using its Frequency Management and Records System (FMRS) software and networked systems.

The spectrum management system supports increased technology development and commercialization by improving use of the radio spectrum through increased sharing and spectrum efficiency. It provides a more rapid method for federal agencies to obtain the spectrum necessary to operate their radio communications. It also provides a method for radio-communication system manufacturers to ensure that their systems meet federal standards and provides federal agencies with a means to obtain technical information on radio communications for planning future spectrum use.

NTIA's Spectrum Management applications support Commerce's Strategic Goal #2.

Bureau of Economic Analysis (BEA)

Economic Accounts

The Bureau of Economic Analysis (BEA) promotes a better understanding of the U.S. economy by providing the most timely, relevant, and accurate economic data in an objective and cost-effective manner. BEA's economic programs require the Information Technology support provided by the Office of the Chief Information Officer. BEA's architecture delineates four key targets that define the areas of critical support: (1) continuing support of staff with more efficient software tools; (2) ongoing upgrades of the IT infrastructure to ensure reliability and security; (3) redesigning of core estimation systems; and (4) harnessing of rapidly developing Web-based technologies to improve data reporting and dissemination. Significant enhancements in each of these areas have been made. BEA recognizes the ongoing need to couple new opportunities presented by technological advancements with the requirement to measure and disseminate data about a rapidly changing economy.

The economic accounts prepared by BEA support Commerce's Strategic Goal # 1.

Bureau of Industry and Security

Export Control Automated Support System (ECASS)

The Bureau of Industry and Security promotes U.S. national and economic security and foreign policy interests by managing and enforcing the Department's security-related trade and competitiveness programs. Business processes related to BIS's core functions of export administration and export enforcement have been supported by a legacy computer system, Export Control Automated Support System (ECASS), since it was originally deployed in 1984.

The ECASS Program consists of two projects: ECASS (2000+) Redesign and ECASS Modernization. The program strategy addresses two different needs. The first priority of the program is retaining the current IT capability to support the BIS mission. The ECASS (2000+) Redesign Scope is replacing the fragile ECASS Legacy system supporting 400 BIS staff and 13,000 exporters with a maintainable, reliable, current technology system. ECASS Redesign addresses the need to mitigate risk of losing current capabilities, actively capture 20 years of legacy system knowledge, and migrate "as-is" critical business process support to a system foundation that is supportable and expandable. The ECASS Redesign project consists of redesigning the ECASS Legacy system using a current technology platform, and migrating existing ECASS functionality and data from ECASS Legacy to the new ECASS Core System.

When complete, the ECASS Redesign project will ensure that BIS is able to continue to support its mission critical functions, specifically processing 15,000 or more export license applications per year, including export enforcement and anti-boycott information reports and assessments, and providing export data to external federal agencies. In addition, the project will enable BIS to improve security, data integrity, and productivity, by virtue of a soundly designed system that uses current standards-based software and hardware technology platforms and application architecture.

In contrast to the ECASS Redesign project, the ECASS Modernization project addresses the need to apply enabling technology that has emerged over the past decade. ECASS Modernization has the potential to "leap frog" the Bureau to close a long-standing IT service gap, and will provide added functionality, such as tools to improve participation in the Global War on Terror and counter-proliferation efforts. ECASS modernization is essential if BIS is to meet the projected increase in licensing work volume and complexity. Under current trends, each licensing officer is expected to be processing over 500 cases annually by 2011 -- an increase of more than 25 percent above FY 2003 levels. In addition, the increasing complexity of licenses, and the need for ever more sophisticated analytical tools to determine trends, requires advanced IT capabilities that have emerged in the last decade, but have not been applied in BIS. As the volume and complexity of license applications continues to increase, BIS must make each licensing officer more productive by using efficient business processes and technology.

ECASS Modernization includes business process and workflow re-engineering, and new COTS software/hardware to support it. The ECASS Modernization Initiative consists of three parts: (1) new computer system modules to support reengineered core Export Administration processes; (2) a commercial content and digital asset management system to manage export application-related electronic and paper documents; and (3) an analytical data warehouse system to support export analysis. ECASS Modernization will build on the ECASS Redesign core framework, database, and application software.

The ECASS Program is being implemented in 3 stages. ECASS Redesign will be implemented in the initial stages, Stages 1 and 2 (FY2005-2009); ECASS Modernization will be implemented in the final stage, Stage 3 (FY 2007-2011).

ECASS Redesign and ECASS Modernization support Commerce's strategic goal #1.

IT Initiative	**Goal 1:** ***Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.***	**Goal 2:** ***Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.***	**Goal 3:** ***Observe, protect, and manage the Earth's resources to promote environment stewardship.***	**Management Integration Goal:** *Achieve organizational and management excellence.*
Departmental Cross-cutting Initiatives				
Commerce Business System	**X**			**X**
Commerce Business Environment	**X**			**X**
Office of Human Resources Management (OHRM) IT Systems				**X**
Herbert C. Hoover Building Infrastructure Network (HCHBNet)				**X**
Major Modification Efforts Highlighted				
Census MAF/TIGER	**X**			
NOAA HPC			**X**	**X**
USPTO Patents e-Gov		**X**		

IT Initiative	**Goal 1:** ***Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.***	**Goal 2:** ***Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.***	**Goal 3:** ***Observe, protect, and manage the Earth's resources to promote environment stewardship.***	**Management Integration Goal:** *Achieve organizational and management excellence.*
Other Operating Unit Specific Initiatives				
2010 Decennial Census Systems	**X**			
Data Access and Dissemination System (DADS)	**X**			
NOAA Advanced Weather Interactive Processing System (AWIPS)			**X**	
Next Generation Radar Product Improvement (NEXRAD PI)			**X**	
National Weather Service Telecommunications Gateway Replacement (NWSTG)			**X**	
NOAA Geostationary Operational Environmental Satellites Ground System (GOES) and Polar-orbiting Operational Environmental Satellites (POES)			**X**	
National Polar-orbiting Operational Environmental Satellite System (NPOESS)			**X**	
NOAA Comprehensive Large Array Data Stewardship System			**X**	

IT Initiative	**Goal 1:** ***Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.***	**Goal 2:** ***Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.***	**Goal 3:** ***Observe, protect, and manage the Earth's resources to promote environment stewardship.***	**Management Integration Goal:** *Achieve organizational and management excellence.*
(CLASS)				
NOAA Grants Online			**X**	**X**
NIST Time Scale and Time Dissemination		**X**		
ITA International Trade Process Streamlining (ITPS)	**X**			
NTIA Spectrum Management		**X**		
BEA Economic Accounts	**X**			
BIS Export Control Automated Support System (ECASS)	**X**			

MANAGEMENT ATTENTION

The key areas of management attention at the Department of Commerce are the 2010 Decennial Census, Export Control Automated Support System Redesign and Modernization (ECASS 2000+), the Departmental IT Security Program, and those projects that were, in response to OMB Memorandum M-05-23, identified as "high risk." The projects identified by Commerce as high risk are: Field Data Collection Automation (FDCA), 21st Century Master Address File/Topologically Integrated Geographic Encoding and Referencing Enhancements (MAF/TIGER), and the Advanced Weather Interactive Processing System (AWIPS). These projects were identified as high risk because they meet two of the four OMB Circular A-11 criteria; specifically, for each of these three projects:

- There is "exceptionally high development, operating, or maintenance costs, either in absolute terms or as a percentage of the agency's total IT portfolio," or
- "Delay or failure would introduce for the first time unacceptable or inadequate performance or failure of an essential mission function of the agency, a component of the agency, or another organization."

Management Concerns

2010 Decennial Census

The Department actively participated in the management of the 2000 Census, and is continuing its vigilant oversight of the 2010 Census. The Bureau of the Census has conscientiously started its planning and initial preparatory activities for the 2010 Census. Of particular concern is the need to maintain a steady funding stream through the decade in support of modular development and implementation of the 2010 Census systems. The Field Data Collection Automation project is a key component of the Decennial Census project, and is discussed in more depth in the "High Risk Projects" section below. The Department monitors progress of the Decennial Census project and its various components through the Commerce IT Review Board and quarterly program management reviews.

ECASS 2000+

The Department continues to closely monitor ECASS 2000+ and the issues that have impeded the progress of this redesign project. Due to escalating costs and schedule slippages discovered at an ECASS 2000+ review in mid-2003, the Commerce IT Review Board recommended that BIS halt all systems development work, redefine the functional requirements for the system, and revisit the ECASS 2000+ acquisition planning. In December 2003, the Federal IT Review Board, at the request of BIS management, conducted an independent peer review of ECASS 2000+ and identified structural, resource, and process areas where additional attention was needed to guarantee a successful project. In August 2004, BIS hired a new CIO and the project was restarted as ECASS Redesign Program (Dec. 2004). The restarted project completed its formal IT Life Cycle Management Initiation Phase, and CITRB reviews in February and June 2005. The project was rebaselined in June 2005 and is progressing effectively, well within tolerance for the redefined cost and schedule performance baselines.

IT Security Program

The security of IT systems is an area of priority throughout the Department. Recent audits by the Office of the Inspector General (IG), coupled with revealing internal compliance reviews by the Departmental OCIO and self-assessments by all Commerce operating units, have highlighted the need for improvements in Commerce's IT security management and implementation, especially in the area of ensuring quality documentation and repeatable processes in support of Certification and Accreditation activities. Specific actions to date include developing repeatable processes for the conduct and documentation of system certification and accreditation activities, increased testing of contingency plans for the Department's IT systems, implementation of secure configurations for most IT systems, regular compliance reviews and vulnerability testing, and institutionalized IT security training that includes annual refresher training for all Commerce computer users and role-based training for those with significant IT security responsibilities. Although this area remains a special management concern and is being closely monitored by the CIO and IG, we have made significant improvements in the security posture of the Department.

"High Risk" Projects

Field Data Collection Automation (FDCA)

FDCA is an $800 million effort to automate field data collection for the 2010 Decennial census and provide services such as logistics, training, and help desk support for 12 regional centers, more than 450 local Census offices, and up to 500,000 field staff. Because of the high development costs of the FDCA project and the significant mission impact that would result from delay or failure, this project is classified as high risk.

Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Enhancement

The $445 million MAF/TIGER Enhancement program will provide a major improvement to the quality and accuracy of data used by census takers and other state, local, and tribal government entities and numerous academic institutions throughout the U.S. Delay or failure of MAF/TIGER Enhancement would have a significant impact on accomplishment of the 2010 Decennial Census, thus a direct negative impact on one of Commerce's essential missions. For this reason, MAF/TIGER is considered a high-risk project. Current performance reports for MAF/TIGER Enhancement indicate that the project is ahead of schedule and under budget, with completion estimates well below initial baselines.

Advanced Weather Interactive Processing System (AWIPS)

AWIPS is considered a high risk initiative because of the significant negative impact that would occur to the nation's weather forecasting capability if the program were to fail, and the program's exceptionally high operating costs (approximately $38 million, annually). AWIPS consists of an integrated suite of automated data-processing equipment deployed to field offices and National Centers to support complex analysis, interactive processing, display of hydro-meteorological data, and the rapid dissemination of warnings and forecasts in a highly reliable manner.